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Mechanic Arts.*

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The system of railroads now in active operation, or in an advanced state of construction, point out the European and North American railroad as a legitimate and appropriate enterprise. "The Portland and Montreal railroad," says the report, far advanced towards completion, and to be opened to Montreal during the coming year, with the railways of New England, secure the convergence of all the lines of railway in the United States and Canada, upon the single trunk railway, which we now propose to extend, from the Kennebec valley to the Atlantic shore of Nova Scotia, and will ensure to this trunk line, when completed, the travel between the two continents, that seeks to abridge the length of passage, and shorten the sea voyage between Europe and America."

While claiming for this line all the advantages proposed, for shortening the transit between Europe and America, reducing the length of passage to five or six days' time, it has claims on the business men of the British Provinces and the northern States of the Union, as a means of increasing trade, stimulating enterprise, and augmenting the productions of the region of country through which it is to pass. We concur in the opinion expressed by the Portland Convention.

"That from the valley of the Kennebec in Maine to the eastern terminus on the Atlantic coast of Nova Scotia, the proposed line of railway will traverse a country abounding in natural resources and possessing all the elements of wealth and commercial greatness in an unusual degree; that although now sparsely populated, this line of country, under railway influence, will soon become densely peopled, and every species of industry will be called into existence among its inhabitants."

Since the separation of the Portland Convention all the opinions expressed by that body, have been abundantly confirmed by various public bodies and the press generally in Europe and America, and by the more matured opinions of an Engineer of the highest authority, as to the practicability and paying qualities of the line. Upon these grounds alone, we may confidently appeal to the commercial world for support. We believe that in order to justify us in expecting its entire success, it is enough to say that it is proposed to extend a line of railway through a region of country rich in every natural advantage—forests, soil, climate and mineral wealth,—over a route the most direct and practicable that can be ascertained, irrespective of intermediate localities, remote from water communication,—giving it perfect immunity from all competition forever, by securing the most direct possible line, between the great centre of population and business.

In further confirmation of these views, we refer to the very able report of A. C. Morton, Esq., upon

the whole line, submitted to the Governor of Maine and made under the authority of the State.

The length of line, from the Kennebec River to Halifax is 475 miles. It is proposed to build this line in separate sections, all parts of the work being kept in subordination to one general plan, so that an unbroken line of railway shall connect Halifax, Nova Scotia, or whatever Eastern port is adopted, with all the railways of Canada and the United States.

From Waterville to Bangor, the distance of 55 miles, the means required will unquestionably be furnished by the guarantee of the railway companies, connecting Waterville with the railways extending from that point toward Boston.

From Bangor to the Boundary of New Brunswick, a distance of 96 miles, the Charter of the European and North American Railway, under which we are now acting, authorizes the construction of a line of railway on the most direct and practicable route to the city of St. John, New Brunswick. It is for this portion of the line that we now invite subscriptions.

The Province of New Brunswick, by an Act passed on the 15th of March, 1851, incorporated a Company under the name of the European and North American railway company, for the purpose of making a railway, which in section 3 is described as "A railway to run from some point or place from the Eastern boundary of this Province in the county of Westmorland, so as best to connect with a railway to be constructed from the city of Halifax or some other port on the Eastern coast of the Province of Nova Scotia on the Atlantic Ocean, over the most practicable route through the Province of New Brunswick, so as best to connect with a railway to be constructed from the city of Bangor in the United States of America to the Eastern part of the State of Maine."

This Charter is of the most liberal character, and while the British Ministry request certain modifications of the charter, of a character in no respect objectionable to the company, a recent Despatch of Earl Grey, undate date of June 12, 1851, contains an assurance of its approval;—so that the requisite authority is now obtained for the construction, by a private company, of a continuous line of railway from the city of Bangor to the boundary of Nova Scotia.

Of this distance, all that portion of the route from St. John, East, contains ample means along its line to construct a railway, and resources, population, and business adequate to support such a line, whenever completed.

It is the distance from Bangor to the city of St. John that requires our principal exertions. From St. John to the boundary of Maine the 73 miles required to form this connection, will have ample means furnished by the people of St. John city and New Brunswick, as soon as the Facility Bills receive the royal assent. By these Bills, New Brunswick offers to grant assistance by a subscription to

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European and North American Railway.

We give below a portion of the prospectus of this company, issued on the occasion of opening books for subscription to its stock. There can now be hardly a doubt of the speedy realization of this great work. The scheme is strong in its own merits, and is likely to receive additional strength from the policy of the home government in extending aid to the projected works of the colonies. After raising the expectations of the colonies to the highest pitch, the least holding back on the part of England would peril the relation which now exists between the two. There can now be no other safe movement than an onward one.

The committee of the European and North American railway, in the State of Maine, say that if subscriptions to the amount of \$1,000,000 can be obtained, the early completion of the road can be secured beyond a peradventure.

the Stock of the company, to an amount equal to \$1,250,000 from time to time in sums of \$50,000 each, on the payment of equal sums by the shareholders in said Company, and a gift of all the ungranted crown lands contiguous to and within five miles of each side of the lines of said railway.

This assistance from the Province of New Brunswick, will at once command the means to build the line from the boundary of Maine to St. John city, even if no further or other assistance is afforded by the Colonial or Imperial Governments.

But it is known that the British Ministry have proffered assistance to the North American Provinces, to an amount sufficient to provide "for the construction of a railway, by which a line of communication may be established on British Territory, between the Provinces of Nova Scotia, New Brunswick, and Canada, * * from Halifax to Quebec or Montreal." The Hon. Mr. Hawes, under Secretary of the Colonial office, says "it is also to be understood that Her Majesty's Government will by no means object to its forming part of the plan which may be determined upon, that it should include a provision for establishing a communication between the projected railway and the railways of the United States."

The Hon. Jos. Howe, the able and distinguished delegate from the Province of Nova Scotia, through whose agency and by whose exertions these pledges have been obtained, informs us that the British Ministry estimate the amount required to carry out these two works, at *seven million pounds sterling*, or \$35,000,000. The condition on which this grant is to be made is, "that the Provinces shall make the loans they are to raise a first charge upon the Provincial Revenue, after any existing debts and payments, on account of the Civil Lists, settled on Her Majesty by laws now in force."

The acceptance of the money on this condition is a matter still in question; but whether the same is accepted or not, no delay need occur in pressing forward our line to a point of connection at the boundary of New Brunswick. That in some mode or other, most agreeable to themselves, the Provinces of New Brunswick and Nova Scotia will carry out the plan of a continuous line of railway, from the boundary of Maine to the eastern shore of Nova Scotia, no longer admits of a question. Such portion of the railway despatches from the British Government as may be required to a full understanding of the question, are hereafter given in the Appendix. It may be proper in this connection to remark, that negotiations are on foot, with a view to obtain further assistance from the British Government in aid of railways in Canada, by securing the Imperial guarantee, or an advance from the Imperial Treasury, of the money required to construct the Grand Trunk Line of Canada, from Montreal to Sandwich, opposite Detroit, in addition to the amount already offered. From Sandwich to Halifax the distance is equal to 1400 miles, which distance, with the European and North American railway across New Brunswick, would require an advance from the Imperial Treasury of over \$50,000,000.

Assuming the early completion of that portion of the European and North American railway which belongs to New Brunswick and Nova Scotia, the inquiry arises, can that portion of the line which is situated in the United States be constructed?

From the eastern terminus of the lines extending from New Brunswick, at Calais, the distance is 151 miles. To extend this line as far as Bangor, requires the absorption of all the means of the people of Maine, west of the Penobscot river, which can be made available to such an enterprise. Still we regard that portion of the work as coming within the ability of the people of Maine to accomplish, and our exertions are directed to the task of obtaining the means for extending this line from Bangor to the Boundary of New Brunswick. The amount required to finish and complete this 96 miles is entirely beyond the ability of the people of Maine, east of Penobscot river to supply.

There are some disadvantages in reference to the construction of this portion of the line, from the fact that some 60 miles of the distance is a wilderness, and though favorable for the construction of a road, and full of valuable forests of timber and abundant water power, which will furnish a large

amount of business to a railway when built, cannot contribute any considerable amount towards its construction. Mr. Morton estimates that the entire line from Bangor to Calais can be built and equipped as a first rate road for about \$28,000 per mile, or something over \$2,500,000.

Without enlarging upon the question of the practicability and advantages of the European and North American railway, we refer parties seeking information to the celebrated report of Mr. Morton. But to give in the briefest terms a summary, showing of its construction in the favorable features of the country over which it is to pass, and its remunerative character when completed, we subjoin the following extracts from the report of Mr. Morton:

"The general results of the surveys show,

1st. That highly feasible route can be obtained between the city of Bangor and the city of St. John, upon which the distance will not exceed 168.5 miles, with a strong probability of its being reduced on a final location to 160 or 165 miles.

2d. That the greatest elevation above tide, to be crossed, will not probably exceed 350 feet, which is within the limits of Maine, and that the maximum grade will not exceed 50 feet per mile, and may probably be reduced to 40 or 45 feet per mile.

3d. That there will be very little if any abrupt curvature, no points requiring excessive expenditure, and the cost per mile will fall below that of the average of the New England roads."

"With this we are enabled to make up the length of that portion of the European and North American railway, within the limits of New Brunswick. From the boundary line of the United States, at Calais, to the city of St. John 73 miles. From the city of St. John to the boundary line of Nova Scotia, near Bay Verte 126 miles.

Total 199 miles

The length of road to be built in New Brunswick, will not probably, at most, exceed 200 miles, and there are strong grounds to believe that it may be reduced to 195 miles."

"The total length of line in Nova Scotia is 124 miles, of which distance the road for 66 miles will be level, or of grades not exceeding 20 feet per mile.

44 miles will have grades of from 20 to 40 feet per mile.

10 miles will have grades of 57 feet per mile.

4 miles will have grades of 66 feet per mile.

From the above, it will be observed that for one half of the whole distance in Nova Scotia, the road will be either level or have inclinations under 20 feet per mile, and nearly 85 per cent. of the whole distance is less than 40 feet per mile."

"The following summary shows the length of road to be built in the state of Maine, in New Brunswick, and in Nova Scotia.

Maine, (omitting fractions).....	96 miles.
New Brunswick.....	200 miles.
Nova Scotia.....	124 miles.

Giving 420 miles
as the total length of the European and North American railway.

From the surveys made of the various portions, I can state with much confidence that, of the 420 miles of railway, there will be over 350 miles upon which the grades will not exceed 30 feet per mile, and for over 100 miles of this latter distance, the road will be level. The maximum grade, with the exception of one point, will probably not exceed 50 feet per mile, with comparatively a short distance of this inclination.

The portion of the line where the grades exceed this, is confined to a distance of about 12 miles, in crossing the Cobequid Hills in Nova Scotia. These inclinations probably will not rise higher than from 50 to 60 feet per mile, and of the latter gradient there need not be more than five or six miles.

The greatest elevation passed over in the 420 miles is also at the Cobequid Hills, which is 600 feet: the greatest in New Brunswick probably will not exceed 250 feet, and that in Maine 300 feet above the ocean.

It is a fact worthy of notice, that this great work throughout its whole extent of over 400 miles, tra-

versing a country, the most prominent characteristics of which are its numerous large rivers, lakes and inlets, that at no point is it interrupted by terraces, nor are the difficulties encountered or expenditures required in the construction of bridges and other works, at all corresponding with the magnitude of the rivers to be crossed, and the objects to be attained.

This peculiarity, together with the great extent of line which may be constructed at a low rate, will tend to reduce the average cost of the whole work to a sum considerably below most of the great lines of the United States."

"Bringing the various items of business together, as hereinbefore set forth, we have the following estimate of the probable annual receipts of the proposed railway:

1,073,000 inhabitants, estimated to pay the railway one half the amount shown in the preceding table or \$1.50 for each inhabitant	\$1,609,500
35 steamer passengers each way over the railway at 2½ cents per mile, or \$10.50 each	229,320
Transportation of mails, \$300 per mile per annum	126,000

Total annual estimated receipts	\$1,964,820
Deduct 50 per cent. for expenses of operating the road	982,410

Estimated net receipts \$982,410
Which is over 7½ per cent. on \$12,600,000, the estimated cost of the railway."

The railway from Bangor to Oldtown, 11 miles at one end, and from Calais to Baring, 6 miles at the other, making a total of 17 miles of road built, may perhaps be brought into use as portions of the line, reducing the actual distance required to be constructed to less than 80 miles, and reducing the cost to only a trifle above 2,000,000 of dollars.

The plan is to raise one million of dollars, the amount required by law to enable the company to organize; and then secure the right of way, commence operations at each end, and lay the foundation for a credit, which will secure the balance.

The Commonwealth of Massachusetts has expressed her interest in the scheme, and from the fact of her owning nearly two millions of acres of land in Maine, it is expected that she will in some form supply a portion of the means. The application to the Legislature of Massachusetts was made at such a late period of the session, that it was deemed advisable by its friends, to have it referred to the next Legislature, when it is hoped it will be favorably considered.

The opinion is confidently expressed that if the amount required to commence, one million of dollars of available stock, be obtained, the early and complete success of this great enterprise will be rendered certain.

Any further information in relation to this scheme, may be had on application to J. A. Poor of Portland, Elijah L. Hamlin of Bangor, and A. G. Chandler of Calais, committee of the corporators.

Tennessee.

Completion of the Railroad to Murfreesboro'.—The cars are now running regularly between Nashville and Murfreesboro'—leaving this city every morning at eight o'clock, and Murfreesboro' at five o'clock in the evening. To the President, V. K. Stevenson, Esq., too much credit cannot be given for the energy, enterprise, and enthusiasm with which he has prosecuted the work of the Nashville and Chattanooga Railroad from the day he took hold of it. By the first of November it is confidently expected, that the cars will be running as far as the intersection of the Shelbyville Branch in Bedford county. We hope and believe that it will not be more than eighteen months before the road is completed to Chattanooga—"a consummation most devoutly to be wished."—Nashville Union,

Railroad Celebration in St. Louis.

The citizens of St. Louis and its vicinity celebrated the 4th of July by the commencement of work on the great Pacific railroad. As this is the most engrossing subject in that state, the occasion called together a vast crowd. The ceremony of breaking ground was preceded by a speech of Thomas Allen Esq., President of the road, who commenced by alluding to the advantages of railroads in general—to the rapid strides made by the world since their introduction, and to the power of the railroad as a social and moral agent, in awakening the energies of a people, in stimulating industry, in diffusing and increasing wealth, intelligence and domestic comfort, and all the blessings of civilization. He showed what a potent influence had been exerted in those states where this labor-saving machine had been introduced for transportation, and said that Missouri wanted the same mighty lever, more potent than any Archimedes ever dreamed of, to enable her to maintain her relative rank among the advancing states of the union; to invite new settlers to come and occupy her vacant lands; to stimulate industry, and unlock those mineral treasures which were scattered in such profusion throughout her domain. After giving some detail of the preliminary surveys of the road, and the probable cost of its construction, which facts have already been published in this journal, the speaker said:—

One of the first effects of the railroad will be, if you will allow me to speak of them in this connexion, increased prices of real estate, superinduced, of course, by the expectation of a demand from new settlers. This effect is already experienced. It is inevitable. And if, on the completion of the road, we were able to deduct from its cost the enhanced value of land, we should find our road costing more than 200 per cent. less than nothing!

Another important effect will be, increased prices to the producer, and diminished prices to the consumer of all farm produce. These will be proportioned to the reduction of the cost of transportation. That reduction of the cost of transportation would present the interest of a new capital that would be given to the country. The aggregate enhanced value given to agricultural produce in the hands of the producer, would in a few years pay the whole cost of the road.

After advertizing to the success of various other railroad enterprises, commenced under more discouraging circumstances, and giving a sketch of what was proposed by the company, he closed with the following eloquent strain:—

It is with these lights before us, and under the circumstances, and with the hopes and prospects I have alluded to, that we have deemed it proper to make a commencement of the work of construction upon the Pacific railroad. It is for this purpose that we have assembled here to-day, on this Fourth of July, A. D. 1851, to raise the first spade of earth in the graduation of that road. And though the idea may be deemed remote, yet may we not hope that the spades put into the work to-day, here upon the bank of the Mississippi, may not grow rusty until they have been finally burnished, in the graduation of the last division of our road, through the golden sand of the Pacific shore!

This was followed by the address of Hon. Edward Bates, the orator of the day, which is spoken of as being an eloquent and patriotic speech, peculiarly appropriate to the occasion.

The Governor of the state being detained at home by illness, the ceremony of breaking ground was performed by the Mayor of St. Louis, amidst the loud acclamations of the crowd, who upon the conclusion of the proceedings, dispersed in excellent spirits. No incident occurred to mar the felicity of the occasion, and we may hope that an enterprise thus auspiciously commenced on the nation's

natal day, will be carried forward by the united hearts and hands of the people to an early completion.

Progress of the United States.

We copy the following statistics from the recent speech of Mr. Webster, delivered on the occasion of laying the corner stone of the Washington monument. They were undoubtedly prepared with great care, and are well worth preserving for future reference:—

	1793.	1851.
Number of States.....	15	31
Representatives and Senators in Congress.....	135	295
Population of the U. S....	3,929,328	23,267,498
Population of Boston.....	18,038	136,871
Population of Baltimore.....	13,503	169,054
Population of Philadelphia.....	42,520	409,045
Population of New York (city).....	33,121	515,507
Population of Washington.....	.....	40,075
Population of Richmond.....	4,000	27,582
Population of Charleston.....	16,359	42,983
Amount of receipts into the Treasury.....	\$5,720,624	\$43,774,848
Amount of expenditures of The United States.....	7,529,575	39,355,268
Amount of imports	31,000,000	178,138,318
Amount of exports	26,109,000	151,898,720
Amount of tonnage	520,764	3,535,454
Area of the United States in square miles.....	805,461	3,314,365
Rank and file of the army Militia, (enrolled).....	5,120	10,000
Navy of the United States (vessels).....	(none)	2,006,456
Navy armament (ordnance).....	.....	2,012
Treaties and conventions with foreign powers.....	9	90
Light houses & light boats.....	12	372
Expenditures for do.....	12,061	529,265
Area of the first capitol building, (square feet).....	14,641	
Area of the present capitol, including extension.....	.....	4½ acres.
Lines of railroads in miles.....	.....	8,500
Lines of telegraph.....	.....	15,000
Number of post-offices.....	209	21,551
Num. of miles of post route.....	5,642	178,762
Amount of revenue from post offices.....	\$104,747	\$5,592,971
Amount of expenditure of post office department.....	72,040	5,212,958
Number of miles mail transportation .....	.....	46,541,423
Number of Colleges.....	19	121
Public libraries.....	35	694
Volumes in do.....	75,000	2,201,632
School libraries.....	.....	10,000
Volumes in do.....	.....	2,000,000

Revolution on the Isthmus.

Return of the Tehuantepec Expedition.—The schooner P. M. Sears, Capt. Graham, arrived on Sunday morning from Minatitlan, having on board the following members of the Tehuantepec Surveying Commission,—J. J. Williams, principal assistant Engineer; J. C. Avery, first assistant engineer; J. McI. Murphy, U. S. N. hydrographic assistant; W. L. Miller, C. C. Smith, J. M. Mercer, Jos. H. Bradley, Jr., J. Johns, Wm. A. Coburn, and L. M. Davidson, assistant engineers; also, M. Muller, draughtsman, and T. C. James and Geo. Evans, together with a number of axemen and employees of the company.

Major Barnard was still at El Barrio, waiting the arrival of Mr. Siddle, with whom, as associate engineer, he was to visit the several passes and prominent points previous to returning. Mr. J. B. F. Davidge, with a small party, was left to make reconnoisances, and run a line of levels from the confluence of the streams entering on the west bank of the Coatzacoalcos, back to the experimental line. Mr. Wm. B. Williams, and a party of four, were also left to run a line through from the Jamuapa to the Chivela Pass, with a view to the construction of a carriage road.—New Orleans Picayune.

Mining in Great Britain.—No. 1.

The mines in Cornwall, the great mining district of England, are generally worked by a company of proprietors, who agree with the owner of the soil for a certain number of years, paying either a fixed per centage, or a certain proportion of the ore raised, being 1-15th, 1-18th, or 1-20th, as may be agreed upon. The grant thus made is called a *sett*. In commencing a mine from the surface, the first thing is to ascertain as far as possible, the situation and direction of the lodes, or veins of ore; this is generally done by digging pits in different parts of the *sett*. By this means the best situation is found for sinking the shaft, so as to take the lode at a certain depth. The shaft is generally sunk about twenty or thirty fathoms, according to the nature of the ground, when a horizontal level or gallery, called an *adit*, is driven east and west, for the purpose of ventilating the mine, and for drawing off the water as the shaft gets deeper. At every ten fathoms the shaft is sunk, similar levels to the adit are driven east and west; these levels being again subdivided by small *winzes*, of about ten fathoms in height, and sixteen fathoms apart, the mine becomes finally divided into pitches. The engine shaft is always sunk to a greater depth than the lowest level, in order to keep the working shaft free from water. The object of the shaft and levels is to get at the ores and to put the lode into such a state that it may be conveniently worked by a number of men. The ore, when broken from the lode, is wheeled in barrows along the levels to the shaft, and then drawn to the surface by an engine; and the *winzes*, besides forming communications from one level to another, also serve to ventilate the mine. The shaft is generally timbered for 30 fathoms in depth, and sometimes the whole way, depending on the nature of the ground; the timber used is Norway pine, and it is estimated that £50,000 worth is annually used in the mines. The levels are generally three feet wide, and six or seven feet high.

The great Cornish adit, which was commenced in the year 1748, is one of the most extensive mines in the world. The total extent of its ramifications is estimated to exceed thirty-five miles. In the shallowest part it is not more than twelve or fourteen fathoms deep; while in one instance, at Wheal Hope, it is seventy fathoms below the surface; its average depth may probably be from thirty-five to forty three fathoms.

The following extract will give a good idea of the nature of the various veins and lodes, with the names usually applied to them by miners:—

Most rocks are traversed by fissures, and which, when they contain minerals, are called *veins*; *lodes*, or *courses*. In regard to accurately describing them, Mr. Carne has determined—By a *lode* is meant a metalliferous vein. By *east and west lodes*, metalliferous veins whose direction is not more than 30° from these points. By *caunter lodes*, metalliferous veins whose directions are from 30° to 60° from east and west. By *cross-courses*, veins whose direction is not more than 30° from north and south. By *flookan veins*, veins of whitish or greenish clay, generally argillaceous. By *cross flookans*, veins of this clay having the same direction as the cross-courses. By *slides*, veins of slimy clay, greatly inclined, having generally an east and west, and rarely a north and south direction. The metal contained in these veins is generally found combined with other substances, and is, therefore, called *ore*. Veins or lodes run to a considerable extent, sometimes for several miles, and have in no instance, been followed to an actual termination, being always relinquished when no longer worth working; their direction or dip, downwards generally forms an angle of 70° or 80°,

If a lode continues in a straight line, it is called a regular lode—if it occasionally swells and contracts, an irregular lode, or a pipe vein; the wider parts are called *bunches*; and when it divides into branches it is said to *take horse*, or come into dead ground, leaving branch of ore on either side.—When a vein *takes horse*, it is generally considered a good indication, for (as the miners say) at the tail of the horse, there are generally some rich bunches of ore. Sometimes a vein called a *cross course*, interieres, and *heaves* the regular lodes, from 2 feet to 50 fathoms, out of its course; or it becomes reduced to mere thread, and reappears at a distance. A cross lode in Wheal Peever, about three miles east of Redruth, extends from sea to sea. On its west side every vein it passes is heaved 50 fathoms further north from the line it would have otherwise pursued, and which the other part still keeps. It was not until after a search during 40 years, that this heaved lode was discovered; for, until mining became so general, the heave of a lode by a cross course greatly puzzled the miners. At present, they find little difficulty on such occasions, as even when an individual case furnishes no means of ascertaining the direction in which the lode has been heaved, they have in almost every part of the mining districts, precedents by which they are enabled to form a tolerably correct judgment on the subject.

The most abundant substance in veins is crystallised spar, termed veinstone, or the leader of the lode; the veins are distinguished by names, according to the nature of the veinstones. The following are the principal:—1. *Gossan*, when the veinstone is clay, mixed with silica, and oxide of iron. Its color varies from light yellow to deep brown. This is the most common veinstone, and is considered as promising, both for copper and tin. 2. *Spar*, when quartz predominates; it is rather unpromising. 3. *Mundic*, when iron pyrites abounds; it is considered as rather promising. 4. *Peachy*, when the veinstone is chlorite; it is more promising for tin and copper. 5. *Flookany*, when one or both of its sides is lined with bluish white clay. 6. *Capely*, when the veinstone is a hard substance of a greenish or brownish color, chiefly a mixture of chlorite and quartz; tin is found in it, but seldom copper. 7. *Prain*, when the ore is found in detached lumps. 8. When a vein abounds in blende it is called a *black jack lode*; when it contains granite it is called a *gwan lode*. Tin and copper lodes generally run east and west, and lead lodes north and south. The veins in Cornwall have no determinate size, being sometimes very narrow, or exceeding several fathoms in width; extending sometimes to a great length and depth, or terminating after a short course in either direction. Their width varies from that of a barleycorn to 36 feet; only one however, has been found in Cornwall of the latter width, and that for only 20 fathoms in length, in Relistian; the average width may be stated at from one to four feet. As regards their form, they are occasionally, though rarely, contained within parallel and regularly-inclined sides or walls; but are continually varying in width, both on the line of their course and of their inclination, partaking often of the same undulating, and even curved form of the rocks which they traverse; moreover, they are accompanied on either side by innumerable branches, which extend in various directions. And, lastly, a parallel series of veins frequently meet at cross vein, either on the line of its course, or of its dip; some of these veins continue their direction on either side of the cross-vein, whilst others, on the opposite side of the cross-vein, abruptly disappear on the line of their original course, and are often found at some distance therefrom, but running in a parallel direction.

Veins vary very much in their composition; in general they consist entirely of earthy minerals, which, indeed, even when the veins are metalliferous, constitute the greater part thereof, the ores seldom being continuous for any considerable distance, but being scattered and disseminated throughout the matrix in short irregular forms; sometimes indeed, but rarely, except in very small veins, the ore entirely prevails.

On the kindly appearance of lodes, Mr. Hennwood says, "All the harder rocks in the mining districts are quartzose, and whether they are

granite, elvan, or slate, this character is unfavorable. A distinctly crystalline structure of granite, and their slaty texture, and high inclination in slate, and in the latter, the moderate thickness of the beds, and the slight inclination of the laminae, are encouraging features. The veined and bedded structures of lodes, and their frequent curvatures, are not inviting, neither are they rich when having a flat underlay. The quartzose, and generally speaking the small portions, are not so rich as those which consist of softer materials, and the frequency of bunches of ore near cross veins, are generally considered beneficial."

The Value of Peat.

We have in former numbers of our Journal given some account of the experiments which have been undertaken in Ireland for the purpose of converting *Peat* into articles of use in domestic economy and in the arts. We have recently seen the Prospectus of the British and Irish peat company, formed for manufacturing peat, under a patent taken out by Mr. Reece, who, after many trials and experiments, succeeded in effecting the complete separation of its elementary constituents in a pure form, and of great value as commercial commodities.

This is effected by a peculiar process of combustion, or destructive distillation, by which one hundred tons of peat are decomposed every twenty-four hours, in two furnaces of ten feet diameter each. The obvious products are tar and a watery liquor; the former is, however, divisible into paraffine, heavy oil and light oil; the latter contains ammonia, carbonic acid, acetic and pyrolineous acid, and pyroxelic spirit. The gaseous products are carbonic acid, oxygen, hydrogen and nitrogen. 100 tons of peat give 10,000 gallons of liquor, 1,000 gallons of tar, and 6,269,129 cubic feet of inflammable gas. The 10,000 gallons of liquor, give one ton of sulphate of ammonia, sufficient acetic acid to give 13 cwt. of grey acetate of lime, and 52 gallons of pyroxelic spirit. The tar yields 300 lbs. of paraffine, 200 gallons of light hydro-carbonaceous oil, and 100 gallons of more dense or heavy oils. Our space does not allow an extended description of the process of purification, and rendering fit for commercial purposes of these general substances; but we will give what the prospectus states as to their value in the market.

Sulphate of ammonia is extensively employed in the manufacture of carbonate and muriate of ammonia, and is extremely valuable as manure—price, £12 per ton. Acetate of lime is in extensive demand by calico printers—£14 per ton: pyrolineous spirit, used by varnishers, hatters and in lamps—5s per gallon; naphtha, for polishes, varnishes, and dissolving caoutchouc, gutta percha, &c., 1s per gallon. The paraffine will doubtless prove a valuable product; and an extensive candle manufacturer has offered 1s. per lb. for all the company can manufacture. Little has been known until recently of this valuable vegetable product. In appearance it is a fatty, but rather firm solid; it is wholly inodorous. At 110° Fahrenheit it melts into an oily liquid, and evaporates without change. It burns with a pure white flame. It is soluble in alcohol, oil of turpentine, naphtha, and the fat oils when heated; and it unites with spermaceti, wax, and most fatty bodies by fusion. It consists of six parts of carbon to one of hydrogen. These singular properties fit it in a remarkable manner for the manufacture of candles of a high degree of purity, which are found in use to emit no smell, and to give an intense colorless light.

From this general description, it must be evident that valuable results will arise from the operations

of the company. The profits estimated from actual experiment, at the prices above given, from 36,500 tons of peat, costing in its entire manufacture and carriage £11,717 are £11,908; and by extending the annual operations, of course the returns will show a larger amount of dividends.

Important Railway Movements in Canada.

The Toronto "Colonist," of the 8th inst., says that the standing committee on railroads have agreed to recommend to the House of Assembly the confirmation of the Provincial guarantee to the extent of one half of the stock, to each, of the *Great Western*, the *Ontario, Simcoe and Huron*, and the *Atlantic or Montreal and Portland railroads*. Our information has been derived from a reliable source. The report of the committee, we understand, will not be formally made, until a decision is come to by them, in regard to the Halifax and Quebec railroad, under the imperial guarantee, and its extension, under the like guarantee, from Quebec to Toronto, there to unite with the Northern, and to Hamilton, there to unite with the Great Western.

The proposition of the government is substantially as follows, viz: to provide for the construction of a Provincial line of railroad from Halifax to Hamilton, as nearly as possible, in the manner proposed by Earl Grey, in his Lordship's despatch lately published. The money for this great work to be procured in England, under the guarantees of the imperial government, at a rate of interest not exceeding 3½ per cent per annum, on condition of the several Provinces of Canada, Nova Scotia and New Brunswick, first acceding to the terms of the proposition. It would be unreasonable to expect that Canada would agree to the proposal, if the work were to be carried no farther than Quebec; and the government, very properly have submitted the question to the railroad committee, in the enlarged shape indicated above, comprehending in the imperial guarantee, the whole of the line from Halifax to Hamilton. This point being decided, the next step in connection with it is the extent to which the Provincial guarantee shall be confirmed to other railroads, and this point having been decided, substantially, to confine the boon to main trunk lines already undertaken, the committee, as we have already intimated, have come to the decision of including the Great Western, the Northern, and the Atlantic, in the Provincial guarantee; and we are not aware that they have agreed to comprise any other in it.

We think it safe to predict, says the Portland Advertiser, that the foregoing plan will be agreed to by Canada, New Brunswick and Nova Scotia, and that any less comprehensive one will fail of success. The distance from Hamilton to Halifax, by the way of Quebec, is 1200 miles. Estimating the cost of this line at £7,000 sterling, this trunk line will require \$42,000,000. Add to this the cost of the European and North American railway across New Brunswick, 200 miles, at £5,000 sterling, or \$5,000,000, makes an aggregate demand for \$47,000,000 from the imperial treasury. This sum will have to be advanced by Great Britain, if she is to retain the colonies.

In reference to the Provincial guarantee, already pledged to the Atlantic and other roads already commenced upon, to the sums of the *interest* for twenty years on one half the cost, the change of guarantee making it applicable to *principal* as well as interest, will enable these companies to raise their money in England, at par. It is known that the largest banking house in London, have recently offered to negotiate the proposed securities, at very favorable rates. This circumstance has given a fresh impulse to the movements of the friends of the Atlantic road in Montreal.

Coming down fast.

The Scioto Gazette, only a few weeks since, was down upon us most fiercely, for saying that it was the intention of the Cincinnati and Belpre company to go to Marietta, and that that company were proposing to abandon Baltimore for a connection with Philadelphia. We now find in that paper of the 9th instant a long article reiterating our statement, almost in so many words. It also publishes a *Resolution* of the board of directors to go to Marietta upon certain conditions—well knowing that these conditions are sure to be complied with.—There is evidently no friendly feeling on the part of the Gazette to the Baltimore project. Instead of this, the whole force of the paper is thrown in favor of the northern route connecting with Philadelphia.

We may here state what are claimed by the friends of the Philadelphia route to be the comparative distances of the two routes.

From Athens to Tygart's Valley bridge, 177 miles.
From Tygart's Valley bridge to Baltimore.....
more..... 283 "

Baltimore to Philadelphia 98 "

558 miles.
From Athens, Ohio, to Greensburg..... 189 miles.
From Greensburg to Philadelphia..... 325 "

514 miles.

Making a distance from Athens (a common point) to Philadelphia 44 miles nearer, by the northern line. It is also claimed that when the grades are taken into consideration, the *equated* distance is really less to Philadelphia than to Baltimore.

The friends of the northern route estimate the cost of the 189 miles at \$25,000 to the mile—equal to \$4,700,000. They estimate that there can be obtained on the route, as available means, the sum of \$1,500,000. It is expected that Philadelphia will furnish a like sum, and that the balance may be easily obtained on the bonds of the company.

The estimates (from the same source) of the cost of the Parkersburg route, are \$30,000 to the mile, equal to a total of \$5,310,000. Baltimore must therefore furnish at least \$2,500,000, to secure the completion of this route. It is claimed that Philadelphia will furnish her quota much more readily than Baltimore.

We give these as the *ex parte* statements of one side. The Baltimoreans may tell us a different story. However this may be, one thing is pretty certain, that the people of lower Ohio are likely soon to have a choice of markets between Baltimore and Philadelphia.

Georgia.

Southwestern Railroad.—We had the pleasure on Friday last, of making our first trip over the Southwestern road. The work of laying the iron was completed on Thursday evening, and the train, filled with freight and passengers, reached Oglethorpe about half past ten on Friday morning. Its arrival was greeted by hundreds of curious and interested spectators who had congregated at the depot from Oglethorpe and the surrounding country, all of whom seemed delighted at the event, especially as they had not anticipated the arrival of the cars before the middle of the present month.

The completion of the road will be celebrated at Oglethorpe on the 10th inst. We are also informed that the company will commence its regular transportation of the mails on or before the 15th inst., and that it expects to be fully prepared to transact all the business that may offer during the season. The engines and equipments generally are of the first class, and the passenger cars are among the most beautiful and comfortable we

have ever seen anywhere. The track is in good condition, and only needs a little ditching and trimming, to place it in first rate order. Along the entire line we were pleased to notice that due regard had been had to taste, as well as utility, in the construction of the station houses, tanks, depots, etc. The Southwestern road is 51 miles in length, has been about three years under contract, and will cost, with its equipments, a little over six hundred thousand dollars. It is indeed a noble structure—creditable alike to those who conceived and those who executed it—to those who furnished the means, and those who performed the work. It was begun and prosecuted under no ordinary difficulties. The company had but a limited amount subscribed, and a large proportion of that was forfeited after the payment of the first installments; so that the burden of the payments fell upon the Central company and the city of Savannah. To these mainly, as well as to the sound judgment of the officers and engineers, and to the perseverance and energy of the contractors, are the people of the southwest indebted. The road is now completed, and who doubts its importance to the planting interests? It has already occasioned an advance of from fifty to one hundred per cent in the price of lands—it carries freight for half the amount hitherto charged, and passengers for less than it would cost to travel the distance on foot or on horseback. These are considerations of no little importance—such as ought to commend the enterprise to all men of reason. That the road will be profitable, we have much reason to hope. Even from its present terminus, it cannot fail to get nearly all the trade and travel of southwestern Georgia.—*Macon Journal*.

Louisiana.

New Orleans, Jackson and Northern Railroad.—The Committee of Ways and Means appointed by the New Orleans railroad convention in April last, have published an "Address to the People of Louisiana," on the subject of this railroad. A late number of the *Lafayette Republican* contains an abstract of this document, from which it would appear that the commerce of New Orleans is declining—that there was a decrease of 572 in the number of flatboats arriving at her wharves from the year 1849 to 1850; a decrease of 89 steam-boats during the same time, and a decrease of 175 American and 216 coastwise vessels. This is not, as might be conjectured, a period of unusual decline; but it is said to be a true illustration of the downward course of trade for years past.

The committee say that in order to redeem the business character of the city and regain her commercial advantages, the most important means is by munificent appropriations for railroads leading from New Orleans and connecting with the vast system of railroads now projected or under construction in neighboring States, and by co-operating zealously with the friends of internal improvement throughout the southwest.

On the subject of taxation, the committee of Ways and Means say that it will not do to rely solely upon individual subscriptions for the promotion of great public works—that it is unfair to throw the whole burden of a public improvement on the shoulders of a few—that a tax upon real estate is the fairest, most equal and best means that can be devised, to raise the funds necessary for the construction of the contemplated road. Real estate is the first to feel the benefits of such a work; and it gives a permanent interest to the holder of revenues, more independent of his individual agencies than any other description of property.

In support of this, the committee cite among others, the instance of Massachusetts, which in 1840 was worth in real estate \$299,878,329; in 1850 \$590,531,881. She has expended \$100,000,000 in railroad enterprises, and the increase in the value

of her real estate, in ten years is almost three hundred millions!

The importance of the proposed road is also urged, as connecting New Orleans by a short and speedy route with the projected roads of the northwest, with the great lakes, and with the eastern cities, without the delays of the present Atlantic or river routes.

Kentucky.

Maysville and Lexington Railroad.—The directors of this company have made a report, giving the reasons which induced them to locate the road upon what is known as the *upper route*, which are in substance as follows.

It appears by the surveys and estimates, that there was a difference in the cost of construction between Carlisle and Lexington, in favor of the *Paris route*, and against the *North Middleton route*, of \$112,000. In the matter of subscriptions, it was found that upon the *North Middleton route* the amount subscribed was \$100,000, and upon the *Paris route*, (including the subscription of the county of Bourbon, \$150,000,) there was subscribed an amount of nearly \$200,000. The distance, via *North Middleton route* was two and a quarter miles greater than upon the *Paris route*; and in comparing the merits of the separate routes, the board were obliged to consider fully the cost to the company of operating the road upon this extra distance. It being usual for engineers, in computing for extra distance, to allow for every mile the sum of \$50,000, the board stated that they knew of no reason why they should in this case depart from a rule so universally adopted, and which in this case can be easily proven to be correct. They therefore allow for this extra distance the sum of \$112,500 in favor of the *Paris route*.

The actual difference in favor of the *Paris route* is then—

Difference in cost of construction.....	\$112,000
" amount of subscriptions... 100,000	
Estimated difference for 2½ miles extra distance.....	112,500 -

Total \$324,500

This was deemed sufficient to influence the board in its decision, and the location via *Paris* was unanimously adopted.

The report also gives the reasons which induced the board to adopt the location of the route from Maysville to *Paris*, via *Helena* and *Carlisle*, in preference to the *western route*. After giving careful attention to the surveys and estimates of both routes, the differences in favor of the *eastern route* were found to be—

1st. A difference in cost of construction of. \$84,231	
2d. " land releases..... 27,000	
3d. " private subscriptions.. 23,850	

Making a total difference in favor of the *eastern route*, of..... \$135,071

In addition to this positive difference, the tunnel at the head of *Limestone creek* might perhaps require side walls and arching, in which case the expense of the *western route* would be increased some \$60,000—making a total difference, in that event, of nearly \$200,000 in favor of the route selected.

The board remark that they are well aware of the many prejudices that exist along the line of the *lower route* with regard to their decision, but they consider they have acted in all cases for the best interests of the country at large, and of the stockholders. They say their policy has been from the commencement, an openly avowed one, which

was, to give no preference to either route, but to let the parties on each route bid for it, and the line that offered the most inducements would be the one adopted. In adopting, therefore, the upper route, says the report, the board are confident that they have carried out this policy, and they at least have the consciousness of knowing that they have acted without fear or favor, and have fulfilled, as well as laid in their power, the obligations imposed upon them by their office.

Pennsylvania.

Cumberland Valley Railroad.—From the sixteenth annual report of the directors of this company, (which has been for some time lying upon our table), we learn that the cost of re-building the road was \$268,696 17. The work was performed in a thorough and satisfactory manner, under the direction of Daniel Tyler, chief engineer. The bridge at Harrisburg was also thoroughly repaired and improved by the introduction of additional arches through its whole extent.

The report expresses a hope that the Dauphin and Susquehanna railroad company will soon complete their connection with the road of the Pennsylvania company, thereby forming an unbroken line of rails from the mines to the Cumberland Valley road, consequently greatly increasing their business, and at the same time supplying the demand for fuel at a price which must greatly increase its consumption.

The cost of the road thus far, including real estate, stations, shops, machinery, engines, cars, and materials for constructing cars, is \$1,187,749 98. The receipts of the year 1850 were \$92,755 78, of which the ordinary expenses were \$46,260 63,—being a little less than fifty per cent of the receipts, notwithstanding the repair of Harrisburg bridge swelled the amount of expenditure nearly seven thousand dollars, and the relaying of the track materially diminished the receipt by embarrassing the business of transportation.

* The officers of the road for 1851 are—

Frederick Watts, President.

Edward M. Biddle, Secretary and Treasurer.

Wm. S. Cobean, Philip Berlin, William M. Henderson, Frederick Byers, Daniel Tyler, David Lapsley, Wm. M. Biddle, Geo. Cadwallader, Henry J. Biddle, J. N. Hutchinson, James McCormick and I. P. Hutchinson, Managers.

Railroad Movements in Pittsburgh.

The movement in Philadelphia, in favor of the Hempfield railroad, by which it is intended that the city of Pittsburgh shall be cut off from the line from Philadelphia to the great West, has aroused the citizens of Pittsburgh to a sense of the danger that threatens them, and of the importance of doing something for self-defence. A public meeting was accordingly called and held on Saturday evening last, to secure the early completion of the railroad from Pittsburgh to Steubenville, which it is believed will counteract any injurious results that might follow to Pittsburgh from the making of this Hempfield Road. The call for the meeting was signed by the leading and most influential citizens of Pittsburgh.

The Commercial Journal has this reference to another road, in which the city of Baltimore has an interest:

Since Philadelphia is disposed to send Pittsburgh adrift to shift for herself, it has been suggested, that the time and circumstances are highly favorable for a renewal of efforts to secure a connexion with Baltimore by railroad.

The Pittsburg and Connellsburg railroad company still preserves its vitality. General Latimer is the President, and his energies are active as ever. The Baltimore and Ohio railroad company remains a large stockholder in this company, and

finds us now with a western railroad almost finished, penetrating a most valuable region of Ohio, tapping her most important lines of railroad; a fact that did not exist when the Baltimore and Ohio company declined the connexion with us.—That company, and the people of Baltimore, will find and feel inducement now to connect with Pittsburg, they never felt before.

What say our citizens to the revival and prosecution of this connection with Baltimore? Ostracized by Philadelphia, we must look for connexions to suit ourselves and promptitude is all we now need.—*Baltimore Patriot.*

New York.

Albany and Schenectady Railroad.—Below we give an abstract of the report of the directors of this company, submitted to a meeting of the stockholders held on the 1st day of February last.

The receipts of the road for the six months ending Jan. 31, 1851, were as follows:—

From passengers.....	\$71,519 89
From Freight	38,370 23
For mail service	1,700 00
For rents.....	1,565 29
	113,155 41

The disbursements for operating the road, and relaying three miles of track, have been.....	\$42,097 26
Interest paid on bonds....	23,050 56
Amount contributed to reserve fund.....	2,500 00
	67,647 82

Leaving balance, being the nett earnings for six months.....	\$45,507 59
Out of this sum the directors have declared a dividend of 3½ per cent....	35,000 00

Leaving.....	\$10,507 59
As a surplus from the nett earnings of the half year's business, to be carried to the credit of the reserve fund, which will leave the balance to the credit of that fund, of \$36,696 17.	

The receipts for the fiscal year ending January 31, 1851, were.....	\$214,786 52
Repairs, expenses, interest and contributions to reserve fund.....	134,278 93

Balance.....	\$80,507 59
The receipts for the six months ending January 31, 1851, were.....	\$113,155 71
The receipts for the corresponding period ending Jan. 31, 1850, were.....	95,862 70

Increase.....	\$17,293 01
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The nett increase of business has been 18 per cent. for the year past, and the average annual increase for seven years has been 17 per cent. per annum.

The report states that the present road bed and track are in excellent condition, and will require no material repairs during the ensuing year. Arrangements are in progress to lay with heavy iron the remaining eight miles of double track, which will give the company an excellent double track throughout the whole length of the road, and with their present equipment will enable them to dispatch their increasing business in a satisfactory manner.

Indiana.

Peru and Indianapolis Railroad.—The Indiana State Sentinel states that Mr. Burke, the President of this road, recently returned from New York, where he had been to make arrangements to insure its speedy completion. He was so fortunate as to conclude a contract with some gentlemen of that city, to complete the whole road within one year from next November.

The gentlemen who have taken the contract

were contractors on the great New York and Erie road, just completed, and have the character of being very energetic business men.

Norwich and Worcester Railroad.

At a meeting of the Norwich and Worcester railroad company, held at Norwich recently, the following gentlemen were chosen directors:—J. W. White, John A. Rockwell, Wm. Aug. White, J. Newton Perkins, Charles Johnson, Jedediah Huntington, David A. Neal, Robert D. Weeks, Alex. De Witt. Mr. J. W. White was re-elected President.

The earnings of the road for the six months ending May 31st, were—

Passengers	\$50,037 73
Freight	66,656 94
Mail service	4,000 00
Express, &c.....	2,136 53
Rental	952 99
Total	\$123,784 19

EXPENSES FOR SAME PERIOD.

Repairs of Road, Engines, Cars, Bridges, Fuel, Oil, &c.....	\$67,515 90
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56,268 29

Int. paid, and salary Transfer Agent...	26,200 57
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Net earnings after paying expenses and interest....

\$30,067 72

The gross receipts for the year ending May 31, 1851, are.....	\$267,700 88
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Expenses, repairs, &c.....	140,362 25
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127,338 63

Interest paid.....	53,656 31
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Net income.....

\$73,682 32

The disbursements for the year have been large for a class of expenditures which will not be required for several years, especially so far as repairs of the bridges are concerned.

The state commissioners certify that the road and its belongings is in a condition comparing favorably with the best roads in New England. The directors announce the discontinuance of one accommodation train which has been run at a loss, which will reduce the running expenses.

Ohio.

Springfield, Delaware and Loudonville Railroad.

We learn that this company have secured the services of S. W. Roberts, Esq., chief engineer of the Ohio and Pennsylvania road, as advising engineer. This route is looked upon with much favor at Pittsburgh, and regarded as very important to that city, and to Philadelphia, as securing a continuous line of railway from Cincinnati to Philadelphia, unbroken by the Ohio river.

Mad River Railroad.—This company has located a new track from Tiffin to Sandusky city, which will shorten the distance about eleven miles. It also reduces the grade to about twelve feet to the mile. At some points on the old track the grade was more than forty feet. By this reduction of grade, it is stated that the same motive power will take three times the weight over the road that could have been taken before.

Dayton and Western Railway.—We learn from the Dayton Journal that all difficulties existing between the Cincinnati and Western Railway Company have been amicably adjusted, and no obstacle exists to prevent the completion of the road west to the State line, and to a connection with Greenville. Means will be placed in the hands of Mr. Degriff, the contractor, to enable him to employ an additional force of 400 hands.—The bridge over Wolf Creek is finished, and the graveling between Dayton and the Greenville

junction in progress. The rail and a locomotive are on the way out, and will be in Dayton in a few days, when the work of laying the rails will be commenced. The Journal rejoices in the prospect of a ride on a rail, on the "Great Central Route" to Terre Haute, within eighteen months.—Cincinnati Gazette.

Indiana.

The New Albany and Salem Railway.—The recent sale of one hundred thousand dollars of the bonds of this railway company, bearing ten per cent. interest, in England, at ten per cent. premium, denotes the estimate by capitalists of the connexion of this work with the Michigan Central railway. Four months since, the sale of these bonds at par was held a fortunate sale. The recognised financial strength of the Michigan company, and the importance of the route from Lake Michigan to the Ohio river, have given an impulse and vitality to the New Albany road not before felt nor contemplated. It impresses upon our citizens the necessity for the speedy completion of the railway to Columbus, and for the immediate construction of the railway to Nashville, to continue the depot of business and trade at Louisville.

Unless the obstruction of the Falls is removed, the terminus of a route through Indiana, from the Northern Lakes, below the Falls, must concentrate a depot for Southern trade at that point. The limited size of New Albany is no impediment to her railroad development—Cincinnati was, half a century since, of less population and importance than Louisville. By the Jeffersonville and Nashville railways, the depot must remain at Louisville, and the trade of Indiana and the South continue to concentrate at this place. The delay in constructing these works until the line from New Albany shall be completed, cannot be afterwards recovered.—Louisville Courier.

Ohio and Pennsylvania Railroad.

The opening excursion of the Ohio and Pennsylvania railroad, west, took place on the 12th inst., and on the Monday following the road was regularly opened for the transportation of passengers and freight between Pittsburgh, Rochester and New Brighton. From Pittsburgh to Alliance, 81 miles, is to be opened in October next. Alliance is 58 miles from Cleveland, and is the point where the Ohio and Pennsylvania road crosses the Cleveland and Pittsburgh road. The Cleveland and Pittsburgh road was completed to that point by the first day of July. From Pittsburgh to Canton and Massillon, 107 miles, the road is to be opened in November next connecting with the Ohio canal.—From Pittsburgh to Wooster, 132 miles, it is to be opened in the Spring of next year, and to Crestline, 185 miles, to connect with the Cleveland, Columbus and Cincinnati railroad in the autumn of next year.

By next October citizens of Cleveland will be able to reach Pittsburgh in about six hours, on a continuous railroad. Next winter and summer nearly all the travel between Pittsburgh and Cincinnati will probably go by the way of Cleveland. The distance between Pittsburgh and Cincinnati, by way of the Ohio river, is 475 miles; by railroad via Cleveland, 85 miles less, or 390 miles. The time of travel by the river would be nearly three days; by railroad less than 19 hours.

North Western Virginia Railroad.

The following letter announces the subscription to the stock of this road of an amount sufficient to secure the charter authorizing its construction:

CORRESPONDENCE OF THE AMERICAN.
Gazette Office, Parkersburg, Va., }
July 10th, 1851. }

Gents—One hundred and sixty thousand dollars (\$160,000) have been subscribed to the capital stock of the North Western Virginia railroad company, in this place. In this amount, I include the subscription of fifty thousand dollars by the Corporation of Parkersburg. Little or nothing has been subscribed in the neighboring counties. Our books will close to-morrow. Charter secured!

Respectfully, A. M. STERRETT.

The charter being thus secured, the next step to be taken is the opening of the subscription books in Baltimore, and the subsequent organization of

the company. The belief is very generally expressed by the Pittsburg press that the Hempfield railroad will be built, now that it has been taken up by the Pennsylvania railroad company and the mercantile interests of Philadelphia. In our opinion, much depends upon the manner in which the Parkersburg railroad project is treated here. If this latter work is taken up by this community with hearty good will, and prosecuted with becoming vigor, we think that the movement will prevent the investment of the requisite capital in the Hempfield road; but even should it be otherwise, Baltimore will be able to compete successfully with her rival for the immense trade and travel which must pass over the Straight Line railroad, between St. Louis, Cincinnati and the South West, and the Central Eastern seaboard.—Baltimore Patriot.

Ohio.

Little Miami Railroad.—The agent of this company has recently negotiated with Messrs. Winslow, Lanier & Co., of this city, \$300,000 of their seven per cent. bonds at favorable rates. This loan is made to pay off the floating debt of the company, and to enable them to make cash dividends. On the 1st of June, 1852, the company will pay cash dividends to that date, and ever after. The bonds are convertible into the stock of the company, at par, within four years from the 1st of April last, at the option of the holder. The road runs from Cincinnati to Springfield, a distance of 86½ miles, connecting at the latter place with the Madison and Lake Erie railroad, and at Xenia, with the Cleveland, Columbus and Cincinnati railroads, both completed and in successful operation. Ten per cent. dividends have uniformly been made but paid in the stock of the company, the receipts having been employed to the completion and improvement of the road. The road is now finished and in complete order. The flat rail at first laid down has been taken up and a heavy T rail put in its place. The total cost of the road including \$236,000 of stock owned and paid for in the Columbus and Xenia railroad, is \$2,435,929 48. The net earnings of the road for six months ending the 1st June last, gave a dividend of five per cent. with a surplus of \$35,528, being an increase of over 40 per cent. on the receipts of the corresponding six months of last year.

Kentucky.

Lexington and Frankfort Railroad.—From the annual report of the directors of this company, submitted to a meeting of the stockholders on the 19th of May, it appears that during the past year the indebtedness of the company has been reduced from \$220,000 to \$170,000. At the same time much has been done in widening embankments and ditching the road, so as to secure a thorough drainage of its bed; wood and water stations have been erected, and additions have been made to their stock of passenger and freight cars. The cost of the road, up to the present time, is stated as follows:

Paid state of Kentucky for old road...	\$150,000 00
Expenditures for construction and furniture, as per items in Treasurer's statement.....	400,542 25
Real estate.....	3,457 31
Salaries chargeable to construction, about	6,000 00
	\$559,999 56
Less amounts received from old iron, }	\$8,773 51
	\$551,226 05

The report states that of the four locomotive engines now owned by the company, but one has sufficient power for the heavy grades of the road. The remaining three, which were included in the purchase from the state, have been found entirely too

light. The directors have therefore ordered two additional engines, which will be furnished in the course of the summer and fall.

The receipts of the road for the year ending May 1st, 1851, are \$66,613 88; the expenses during the same period are \$31,227 45, being only about forty-seven per cent. of the receipts. This will compare favorably with the proportion of expenses to receipts on Eastern roads; and when it is taken into account that the Lexington and Frankfort railroad is only twenty-eight miles in length, and that the proportional expenses of working a short line of road are necessarily greater than the working expenses of long lines, it will be seen that the affairs of the road have been managed with a good degree of prudence and economy.

Virginia.

Seaboard and Roanoke Railroad.—The operations on the Seaboard and Roanoke railroad have been completed as far as Meherrin River, to which point it was not expected to reach before the 4th of July. Meherrin river is 65 miles from Portsmouth, only leaving about 20 miles for the entire completion of the road to Weldon.

Northwestern Railroad.—We learn that the following citizens of Baltimore have been duly appointed to procure subscriptions to the stock of this company, viz.:—Robert Garrett, Thomas Hoffman, John Hopkins, Jesse Slingluff, Charles D. Slingluff, Joseph Taylor, Chauncey Brooks, and John Glenn, Esqrs. These gentlemen are authorized to open stock subscription books in the city of Baltimore at such times and places as they may deem advisable. We further learn that there has been a fair subscription to the stock in the Virginia counties lying on the route of the contemplated road.—The precise amount of subscriptions is not yet known, but as soon as ascertained the Baltimore Commissioners will open the books in this city.—We have no doubt that this movement will be cordially met by subscriptions on the part of our citizens, corresponding in liberality with the degree of interest they have in the early commencement and speedy accomplishment of this most important work.—Baltimore American.

Vermont.

Vermont Valley Railroad Company.—The annual meeting of the stockholders of this company was held at Bellows Falls, on the 9th inst. The Directors made a very lucid and satisfactory report upon the condition and prospects of the company, which was unanimously accepted.

The following Directors for the year ensuing were unanimously elected:—Hugh H. Henry of Chester, President; Charles Paine, Northfield, Vt.; Charles Linsley, Middlebury, Vt.; George L. Schuyler, New York; Alexander Hamilton, J. do.; Charles Chapin, Brattleboro'; Peyton R. Chandler, Putney.

Robert Schuyler was chosen Treasurer, L. G. Mead, Clerk; B. R. Chandler, Superintendent.

There was a very full attendance of Stockholders, who were highly gratified by the flattering business prospects of the road.—Brattleboro' Eagle.

Indiana.

Richmond and Newcastle Railroad.—The Newcastle Courier states that over \$70,000 has already been subscribed to the stock of this road, and that the grading on the heaviest part of the line is about completed. Negotiations are on foot for heavy T rail with favorable prospects of success.

New Albany and Salem Railroad.—We have seen a letter from the President of the New Albany and Salem Railroad company, from which we learn that an arrangement has been made, by which that company and that of the Crawfordsville, Ind., and Lafayette company are to be consolidated under an act of the Legislature authorizing it, and that the road is to be pressed forward to Michigan city with all possible dispatch. We learn that the desire along the road is so great to have it completed at

an early day, that the Michigan Central railroad company has agreed to anticipate some of the latter instalments of its subscription for stock in that road, in order to aid in putting the work under contract from Michigan city to Lafayette immediately.—*Detroit Free Press.*

AMERICAN RAILROAD JOURNAL.

Saturday, July 19, 1851.

British Provinces.

Affairs in the neighboring British Provinces are assuming an aspect which is attracting a careful and increased attention, both in the United States and in England. It is plain to see that a general discontent pervades the great mass. They are dissatisfied with the present condition of things, and are in favor of change, in hopes that it may bring relief and contentment. They have reached a point where numbers, wealth and strength, secure respect and consideration abroad, and give at home a consciousness of an ability to consult their own ideas of welfare in questions that relate to their internal and domestic economy.

The British Provinces certainly embrace one of the finest portions of this continent. They have an abundance of the most valuable minerals, and an excellent soil. Their capacity for production is enormous, but they are almost entirely wanting in suitable markets. Their coal and iron cannot be sent to England, and they are kept out of the United States by high duties. The only exportable agricultural products of the northern States and the Provinces, to England, are wheat and Indian corn. In the latter article the Provinces cannot compete with the United States, while only a limited portion of their territory is well suited to wheat. These make up but a small fraction of their agricultural products, and are not equal to the consumption of these articles among themselves. The coarser and more valuable products will not bear a long voyage at sea, as before stated. Their domestic markets amount to nothing of moment, and those of the United States are almost inaccessible. We thus find a widely extended and numerous people, with all the material basis of great wealth and prosperity, unable to turn their resources to account, simply from the difficulty and cost of getting their products to the markets where they are wanted, and would, but for such charges, command a remunerating price. This state of things is breeding great discontent, which is manifesting itself in almost every manner possible. A great part of the differences of opinion which now exist in the Provinces arise from the external relations to which we have alluded. Dissatisfied with the present, they strike out into some new line of policy, which, having no relation to the cause of the troubles, is repudiated for something else equally wide of the mark; and many of the important propositions now before the Canadian Parliament have been brought forward in the hope that some of the experiments tried may effect a cure of the evils under which the body politic is now laboring.

The home government sees the discontent and disaffection which prevails; is anxious to retain the colonies, and hence the newly awakened attention to their complaints, and profers of aid to assist them in their projects. The Provinces, seeing what railroads have effected in the United States, and assuming that similar results would follow their introduction among them, are eager for their construction. To a limited extent they would produce similar results; as they would render other

pursuits, beside agriculture, necessary. Every person withdrawn from agriculture would create a demand for what he did not produce. But change in this respect would be too slow to bring immediate relief. Production, by the diminished cost of carriage, would be stimulated in much greater proportion than the new demand, so that labor would not be any better remunerated. Railroads are merely the *corollaries*, not the great remedy for Provincial embarrassment and discontent. They would not effect a cure, but instead, would be the cause of further and increased disaffection. The greater the ease with which their products could be transported, the greater would appear the want of a market. Let us suppose a case. A Canadian farmer, having no demand at home, places aboard a train a car load of potatoes, for the purpose of sending them to Boston. At the lines he is met with a tax, in the shape of a duty, which eats up all the profit to be made by sending them into the States. The fact that he must pay this TAX, in which he can in no way be benefitted, will breed more discontent and complaint than all his grievances beside. This tax constantly stands between him and his interests. He feels it to be a practical wrong, what is a legal right; and the contest that must arise between his interests and his predilections (supposing him attached to the present order of things,) will in the end most certainly be decided in favor of the former. The promotion of our physical and our material good will sooner or later always control, as it should, our political views. If therefore the Canadian, or the British government, expect that railroads are to administer a soporific to the colonies, that they will secure contentment and harmony, they are grandly mistaken. They will not only serve to discover, in a more complete manner, the true wants of the colonies, but they will give the strength and ability to gratify them. They will be of great benefit, no doubt, but as far as political effect is concerned, they will constitute another and a powerful element of discord.

It will be a long time before the turbid stream of Canadian politics will run clear. The political principles of those at the head of affairs are the maxims of a monarchical government. Their sympathies are all on the side of an aristocracy.—Many of the leading men in the Provinces have been in military life, and their political views are moulded by their ideas of political subordination. Habit has attached them to their ideas, and their interests, to the existing order of things; and they look with undefined terror upon everything that may call in question their principles, which have become a second nature, or which may threaten to take from them their means of support. With such people, change is but another name for an attack upon what are deemed personal rights.—Hence the bitterness which many of them feel toward their busy and innovating neighbors, over the lines. Another future source of disturbance is the present limited right of suffrage. This must gradually be extended, though not without a severe struggle on the part of those who possess this right. The extension of this privilege will undoubtedly lead to some excess, till the exercise of the thing shall fit the new recipients for the enjoyment of freedom. There is too, a large party in Canada in favor of maintaining the connection with the home government, and a strong one in favor of dissolving such connection. All these elements heaped together constitute a highly inflammable mass; and we must expect repeated explosions till the

combustible ingredients shall have become exhausted, and the whole reduced to one homogeneous mass. The material interests of the Provinces are what in the end will direct their policy, despite the financial interests or policy of those in office, or the theories, the ideas, or the pursuits of the great mass. Our neighbors must strive to be better logicians, even should this make sad havoc both with conviction and tradition.

New York.

A Convention of citizens of Chautauque and Cattaraugus Counties was held in the village of Jamestown, on the 27th ult., to take measures for the organization of a company to construct a railroad from the mouth of Little Valley Creek to the State line in the town of Ripley. Hon. Benjamin Chamberlain, of Randolph, was chosen President. It was resolved to build the road, and a large number of local committees were appointed to collect subscriptions and obtain right of way. The Convention adjourned to meet on the 11th instant, at Randolph.

To Contractors.

Peru and Indianapolis Railroad.

PROPOSALS will be received at the office of the Peru and Indianapolis Railroad, in Noblesville, until the evening of the 13th of August next, for the Grading of the line of the above road from Noblesville to Peru, a distance of fifty miles.

The proposals are to be addressed to W. J. HOLMAN, Esq., Chief Engineer, at the Company's Office, where plans and specifications of the work may be seen. Payments will be made monthly in cash, reserving 15 per cent. till the contracts are completed.

Indianapolis, July 12, 1851.

Stock and Money Market.

The market continues without much change.—Money is abundant, and the quotations are well sustained. The receipts upon all our roads show a great increase over the past year, which fact exerts a strong influence in sustaining the price of stocks, and in securing confidence to our railroad enterprises. We have nothing new to add in reference to bonds of new works. There are too many of the securities before the market to permit an active demand, but they continue to find purchasers at prices not unfavorable in the whole to lender and borrower, so that all our leading works can keep under full headway.

The Madison and Indianapolis railroad company has declared a semi-annual dividend of five per cent. This makes eleven per cent. for the year just ended.

The earnings of the Boston, Canada and Montreal railroad for the month of June were \$12,718 38, against \$10,715 94 in 1850.

The receipts on the Cleveland, Columbus and Cincinnati railroad for the first week in July were \$9,576 for passengers only.

The earnings of the Michigan Central road in June are \$110,826 87
June, 1850..... 70,313 56

Increase, 57 per cent..... \$40,513 31

The President of the Belpre and Cincinnati road Hon. W. P. Cutler, and Col. John Madeira, one of the directors, have effected an arrangement in this city for the sale of \$300,000 of the bonds of Ross county, issued in aid of the above work. The county of Ross is one of the richest in Ohio, and its bonds are equally as good as the securities of the state. Thirty-five miles of this road is already under contract, and the work on 50 miles more

is soon to be let. The whole length of line is 188 miles.

The Evening Journal gives the annexed statement of the quantity of flour, wheat, corn and barley, left at tide water during the 1st week in July, in the years 1850 and 1851, as follows:

	Flour.	Wheat.	Corn.	Barley.
	bbls.	bush.	bush.	bush.
1850....	37,528	27,368	181,029	5,006
1851....	67,882	44,145	294,174	4,035
Increase.	30,354	16,777	113,145	dec. 971

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 7th July, inclusive, during the years 1850 and 1851, is as follows:

	Flour.	Wheat.	Corn.	Barley.
	bbls.	bush.	bush.	bush.
1850....	670,948	258,272	1,471,420	116,951
1851....	1,200,788	578,849	3,180,985	103,731

	Increase.	538,840	330,577	1,709,565	dec. 13,200
The amount received for tolls on all the New York State Canals during the first week in July, is.....			\$82,827	14	
Same period in 1850.....			66,176	24	
Increase in 1851.....			\$16,650	90	
The aggregate amount received for tolls from the commencement of navigation to the 7th of July inclusive, is.....			\$1,211,678	89	
Same period in 1850.....			992,663	90	
Increase in 1851.....			\$219,015	99	

The following is the business of the Peru and Indianapolis railroad for June, 1851:—
Amount of Freight transported, (pounds) ..948,170
Number of passengers transported.....773

RECEIPTS.

Rec'd for transportation of passengers.....	\$326	20
Rec'd for transportation of freight, 443	08	
	—	\$769 28

The following is the business of the Indianapolis and Bellefontaine railroad for June, 1851:—
Amount of freight transported, (pounds) ..992,103
Number of Passengers transported
in regular trains..... 770
Number of passengers transported
in celebration..... 5,000

5,770

RECEIPTS.

Rec'd for transportation of Passengers in regular trains.....	\$411	50
Rec'd for transportation of freight, 430,03	—	
	—	\$841 53

Rec'd for transportation of passengers in celebration.....	1,101	50
Total.....	\$1,943	03

The earnings of the Chicago and Galena road shows a very favorable condition of traffic. The receipts in June were:

Freights.....	\$8,350	16
Passengers.....	8,277	52
	—	\$16,627 68

AURORA BRANCH.

Freights.....	\$1,000	18
Passengers.....	771	30
	—	\$1,771 48

ST. CHARLES BRANCH.

Freights.....	\$267	98
Passengers.....	199	06
	—	\$467 04

Total.....	\$18,866	20
Earnings, June, 1850.....	9,953	40

Increase..... \$8,912 80
Nearly 100 per cent.

The receipts of the Hartford and New Haven railroad up to the 1st of July, 1851, show an in-

crease of \$61,200 over the receipts for the corresponding period of last year.

The coinage at Philadelphia for the past six months has been as follows:—

GOLD COINAGE AT THE PHILADELPHIA MINT.

	Double Eagles.	Half Quarter	Eagles.	Eagles.	Dollars.
Jan	2,116,020	None.	None.	253,900	251,046
Feb	4,560,980	.....	.....	333,315	188,702
M'ch	5,683,940	.....	243,315	95,260	263,220
April	2,354,880	211,790	.....	222,270	387,118
May	1,734,940	366,250	215,000	561,690	422,682
June	2,610,300	121,270	356,180	285,610	279,888

Total 19,061,060 599,310 814,495 1,752,045 1792,656

TOTALS.

January	\$2,620,966	April	\$3,176,058
February	5,082,997	May	3,201,262
March	6,285,735	June	3,653,248

Grand total..... \$4,020,266

The amount turned out at New Orleans will probably raise the aggregate to \$30,000,000.

SALES OF STOCK IN NEW YORK.

	July 10.	July 17.
	Sales.	Sales.
U. S '67 Loan.....	116 $\frac{1}{2}$	116 $\frac{1}{2}$
Erie R.R.....	84 $\frac{1}{2}$	84 $\frac{1}{2}$
Harlem R.R.....	73	73 $\frac{1}{2}$
Stonington.....	44 $\frac{1}{2}$	44 $\frac{1}{2}$
L.I. R.R.....	17	17 $\frac{1}{2}$
Norwich & Wor....	57	56
Del. & Hudson....	121 $\frac{1}{2}$	121 $\frac{1}{2}$
Reading.....	56 $\frac{1}{2}$	56
Morris Canal.....	16	16 $\frac{1}{2}$
Erie income.....	97 $\frac{1}{2}$	98
" Bonds.....	103	103 $\frac{1}{2}$
Canton.....	67	68
Farmers Loan.....	69	69

SALES OF STOCKS IN BOSTON.

	July 9.	July 16.
Old Colony Railroad.....	68	67 $\frac{1}{2}$
Boston and Maine R.R.....	103 $\frac{1}{2}$	103 $\frac{1}{2}$
Eastern Railroad.....	98	98
Fitchburg Railroad.....	110	109 $\frac{1}{2}$
Michigan Central Railroad.....	103	103 $\frac{1}{2}$
Northern Railroad.....	69 $\frac{1}{2}$	—
Vermont Central Railroad.....	35 $\frac{1}{2}$	35
Vermont and Mass. R.R.....	30 $\frac{1}{2}$	30 $\frac{1}{2}$
Western Railroad.....	102 $\frac{1}{2}$	103
Ogdensburg Railroad.....	35 $\frac{1}{2}$	36
Rutland Railroad.....	55	—
Boston and Worcester Railroad.....	103 $\frac{1}{2}$	—
Rutland Railroad Bonds.....	97	—
Ogdensburg Railroad Bonds.....	97	—
Vermont Central R.R. Bonds.....	91 $\frac{1}{2}$	—
Boston and Providence R.R.	90	—
Philadelphia, Wilm'gton & Balt.	29 $\frac{1}{2}$	—
Concord R.R.....	55	—

To Railroad Companies.

THE undersigned has discovered and patented an imperishable, cheap, and sufficiently elastic substance, to be introduced between the sill and rail, so that the stone sill can be used in place of the wooden sill: entirely overcoming that rigidity where the rail is laid directly on stone. Address

J. B. GRAY, care of A. G. HOLMES,

108 Arch st., Philadelphia.

July 10, 1851. 4m

Railroad Lanterns.

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,

No. 24 Commercial St. Boston.

August, 16, 1849. 6m33

Railroad Iron.

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron.

THOMAS B. SANDS & CO.,

73 New street,

New York.

February 3, 1849.

European and North American Railway.

THE undersigned, the three persons first named in the first section of an act passed by the Legislature of Maine, and approved the twentieth day of August last past, entitled "An Act to incorporate the European and North American Railway Company," and being specially authorised therefor in and by said act, hereby give public notice that, for the purpose of receiving subscriptions to the stock of said company, as established by the act aforesaid, according to the provisions thereof, not exceeding forty thousand shares, books of subscription will be opened under the direction of the undersigned, according to the regulations prescribed, at the time and places following, viz:—On WEDNESDAY, the Twentieth day of August next,

At Calais, Maine, with Noah Smith, Jr., Esq.

Eastport, do. Col. Bion Bradbury.

Machias, do. Walker & O'Brien,

Ellsworth, do. Seth Tisdale, Esq.

Oldtown, do. Geo. P. Sewall, Esq.

Bangor, do. Geo. W. Pickering, Esq.

Orono, do. Hon. Israel Washburn, Jr.

Waterville, do. Hon. Timothy Boutelle.

Brunswick, do. Prof. William Smyth.

Augusta, do. B. A. G. Fuller, Esq.

Belfast, do. John Y. McClintonck, Esq.

Portland, do. John B. Brown, Esq.

Portsmouth, N.H. Hon. I. Goodwin.

Salem, Mass. Stephen A. Chase, Esq.

Boston, do. Francis Skinner & Co.

Lowell, do. John Wright, Esq.

Worcester, do. Charles Washburn, Esq.

Providence, do. Billings Brastow, Esq.

Hartford, Conn. Hon. C. F. Pond.

New Haven, do. Allen Prescott, Esq.

New York, N.Y. R. & G. L. Schuyler, No. 2 Hanover street.

Albany, do. John V. L. Pruyne, Esq.

Troy, do. Hon. John D. Willard.

Philadelphia, Pa. Hon. Wm. C. Patterson.

Montreal, Canada. Hon. John Young.

Quebec, do. J. B. Forsyth, Esq.

Said books will remain open for ten successive days at the places and with the persons aforesaid.

Dated at Portland, this sixteenth day of June, A. D. 1851.

ELIJAH L. HAMLIN,
ANSON G. CHANDLER,
JOHN A. POOR.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

IN press, and will be published in a few days; accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also in press, and will be issued in a few weeks, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidity, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton. June 28, 1851.

Railroad Spikes.

THE subscribers are prepared to make and execute contracts for Railroad Spikes of a superior quality, manufactured by the New Jersey Iron Company, at Boonton. DUDLEY B. FULLER & CO. 139 Greenwich st. corner of Cedar.

THE Fourth Annual Exhibition of AMERICAN MANUFACTURES, by the MARYLAND INSTITUTE for the Promotion of the Mechanic Arts, will be opened in Baltimore on the 20th October, 1851.

The Exhibition will be held in the SPLENDID NEW HALL of the Institute, (fronting on Baltimore street) now being rapidly completed. Their edifice is centrally situated, chaste in its architecture, solid in its construction, and is by far the largest and most complete building in the United States, devoted to the Mechanic Arts. It may be added that this building is 355 feet long by 60 in breath, with an average height of 68 feet, containing some twelve apartments, the largest of which is 255 feet by 60, and that the cost will be over \$70,000.

To this Exhibition, the Managers ask the attention of all engaged in industrial pursuits throughout the country, and cordially invite them to contribute specimens of their best productions for public inspection, and to compete for the prizes offered by the Institute. These prizes consist of GOLD and SILVER MEDALS, DIPLOMAS, etc., which were last year distributed as follows:—*Gold Medals, 16; Silver ditto, 90; Diplomas, 60; besides 85 articles of Jewelry, etc., to ladies.* Fair play will be scrupulously observed towards all, and every facility of Steam power, shafting, fixture, labor, &c., &c., will be amply provided free of expense. The machinery will be under a special superintendent, and a fine display of it is looked for. The last exhibition of the Institute was visited by more than 40,000 persons, and with their vastly improved accommodations and alterations, this number will be doubled at the coming display, embracing many Virginians, Pennsylvanians, and other strangers from the South and West.

Joshua Vansant, President.

Ed. Needles, Vice Presidents.

F. A. Fisher, Sec'y.

Samuel Sands, Rec. Sec'y.

Wm. Prescott Smith, Cor. Sec.

F. J. Clare, Treasurer.

BOARD OF MANAGERS.

Ross Winans,	Simeon Alden,
P. S. Benson,	J. T. Watson,
Josiah Reynolds,	W. Robinson,
Thomas Stowe,	Wm. A. Boyd,
Thos. J. Lovegrove,	Adam Denmead,
A. Flannigan,	C. W. Bentley,
E. Larrabee,	Geo. R. Dodge,
John F. Davis,	Sam'l. E. Rice,
Wm. H. Keighler,	John F. Meredit,
Richard Edwards, Jr.,	W. Abrahams,
Wm. Bayley,	Thos. Trimble,
R. Eareskson,	Chas. Suter.

(The last nine in Italics are the Committee on Exhibition.)

The Hall will be opened for the reception of goods on MONDAY, 13th October; on the next Monday, 20th, at 7 P. M., the Exhibition will be formally opened to the public, and will positively close on Wednesday, 19th November. Articles for competition must be in the Hall by Thursday night, Oct. 16, unless delayed in shipment after starting in ample time.

Those who intend depositing, will give the Committee or the Agent, notice as early as possible, stating the nature of the goods, and probable amount of room required, to exhibit them to advantage.

Circulars, containing a view of the new Hall and the full regulations of the Committee, with special information, if required, may be had promptly, by addressing the undersigned, or the Institute's Agent, J. S. Selby, Baltimore, post-paid.

ADAM DENMEAD,
Chairman Com. on Exhibition for 1851.

SUPERIOR BLACK WRITING & COPYING INK.

Jones' Empire Ink.

87 Nassau st., Sun Building, New York city.

Net prices to the trade—

Quarts, per dozen,	\$1 50	6 oz. per dozen,	\$0 50
Pints,	" 1 00	4 " "	0 37
8 ounces,	" 0 62½	2 " "	0 25

On draught per Gallon, 20 cents.

This is the best Ink manufactured. It flows freely, is a good copying ink, and will not mould, corrode, precipitate or decay. Orders for export, or home consumption, carefully and promptly attended to by

THEODORE LENT.

Notice to Contractors.

Engineers Office, E. T. & V. R. R. Company, Greenville, E. T., June 5th, 1851.

PROPOSALS will be received until the 1st day of October next, for the Grading and Masonry of that part of the E. T. & V. Railroad between the Eastern terminus of said road at King's Meadow, and Rheatown, in Greene County, a distance of about forty seven miles. A large amount of very heavy work, both in Grading as well as Masonry, will be found on this division, offering strong inducements to able Contractors.

Maps, Profiles, and Specifications can be seen at this Office, on and after the 20th of July next.

The Company reserve the right to reject all, or any proposals that they deem unsatisfactory.

Proposals should be directed to the Treasurer and Secretary of the E. T. & V. Railroad Company, Jonesborough, E. T.

LLOYD TILGHMAN,
Chief Engineer.

Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscribers, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.

THOMAS J. LOVEGROVE,
Machinist and Founder,

West Falls Avenue, below Pratt st., Baltimore.

Superintendent of a Railroad.

THE Post of Superintendent of a Railroad is wanted by a middle aged man, who can give satisfactory evidence of his capacity, integrity and qualifications for such a situation. Letters addressed to A. B., care of the Editor of the Railroad Journal, New York, (to whom the above would refer), will receive immediate attention.

New York, June 11, 1851.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplied by addressing J. W. FLACK, Troy, N. Y. or MOORE HARDAWAY, Richmond, Va., March 6, 1850.

Railway Iron.

3000 TONS, 50, 57, and 60 lb. Rails, made of best English Iron and under particular specifications.

Also:

Rails imported on commission or at a fixed price, delivered at a port in England, or at any port in the United States. Apply to

DAVIS, BROOKS & CO.,
June 5, 1851. 28 Beaver st., New York.

Wheel, Forge and Foundry Iron.

OCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
Sm9 62 Buchanan's Wharf, Baltimore.

To Railroad Companies.

SALISBURY REFINED IRON.

THE Undersigned, having enlarged and perfected his Works, is now prepared to furnish Locomotive Tire of a better quality than have heretofore been used. Railroad Companies who may wish it, will be furnished with a set for trial, not to be paid for until they are satisfied of their superior quality over any other. Also made at short notice, and in the best manner, Locomotive Cranks, Engine and Car Axles, and other Locomotive Forgings.

All work ordered from me will be made of Salisbury Iron, and done in the best manner.

Address HORATIO AMES,
Falls Village, Conn.
May 1, 1851.

TO CONTRACTORS.

Engineer's Office, S. S. R. Road Co., Petersburg, Va., May 27, 1851.

PROPOSALS will be received at the Engineer's office, South Side Railroad, at Petersburg, Va., until the 31st of July next, for the construction of Appomattox Bridge, to be erected near Farmville.

The Bridge will be about 3000 feet long and 80 feet high; to consist of a wooden superstructure resting on abutments and piers.

The piers will be of brick or stone, to be determined after receiving the proposals.

Good brick earth can be obtained near the site of the Bridge.

The proposals may be made for the structure complete, or for the various items of work and materials, viz.: Masonry, furnishing Bricks or Timber; workmanship of laying Bricks and workmanship of superstructure.

Security will be required for the fulfilments of the contracts, and it will be necessary that each proposal be accompanied with a letter from a responsible person or persons, stating that they will become security.

C. O. SANFORD,
Ch. Engineer, S. Side R. Road.

Railroad Iron.

THE Subscribers, Agents for the Manufacturers, are prepared to contract for the delivery of Railroad iron at any port in the United States or Canada, or at a shipping port in Wales.

WAINWRIGHT & TAPPAN,
29 Central Wharf.
Boston, June 1, 1851.

Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.
40 " " 5½x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by RAYMOND & FULLERTON,

45 Cliff street.

To Railroad Companies, Machinists, Car Manufacturers, etc., etc.

CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,
IS prepared to contract for furnishing at manufacturer's prices—

Railroad iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel,

AND
ENGINEERING AND MACHINE FILES,
which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
24 Cliff St., New York.

November 23 1849.

Car Wheel Iron.

100 Tons "Columbia" No. 2 Cold Blast Charcoal Iron.
300 Tons "Salisbury" No. 1, do. do.
For sale by CHARLES T. GILBERT,
No. 80 Broad st.

New York, Sept 21, 1850.

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railroad iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

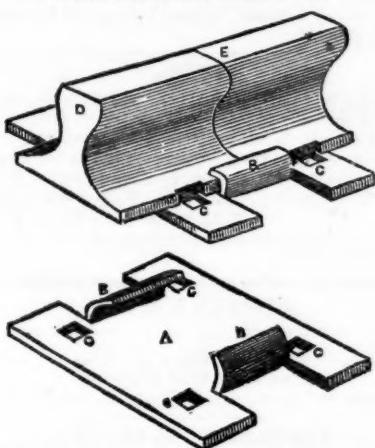
To Railroad Companies, etc.

The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

I also invite attention to an improved PATENT SPRING LOCK, for SLIDING Doors to Freight and Baggage Cars, now in use upon the Pennsylvania Central, Greensville and Columbia, S.C., Reading, Pa., and other Railroads.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,
46 South 8th St. Philadelphia.
May 9, 1851.

The American Railroad Chair Manufacturing Co.

ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

DESCRIPTION OF THE ABOVE CUTS.

Figure 1 is a perspective view of the rail secured in the chair, and fig. 2 is a perspective view of the chair itself. D, E, are sections of two rails placed together, and secured at the joint on the chair by the jaws B, B. The chair is bolted down by spikes C, C. In fig. 2, the chair is represented as made of a single block or plate A of wrought iron.

The chair is set in its proper place on the track, spiked down, and the ends of the two rails brought together within the jaws as represented in fig. 1.

For further information address,

N. C. TROWERIDGE, Secretary,
Poughkeepsie, N. Y.

June 1, 1851.

Railroad Commission Agency.

THE Subscriber offers his services to Railroad Co's and Car Makers for the purchase of equipment and furniture of roads and depots and all articles and materials required in the construction of cars, with cash or approved credit. No effort will be spared to select the best articles at the lowest market price.

He is sole Agent for the manufacture of the ENAMELED CAR LININGS, now in universal use. The best Artists are employed in designing new styles, and he will make to order pieces with appropriate designs for every part of the car, in all colors, or with silver grounds and bronzed or velvet figures.

He is also Agent for Page's Car Window Sash Fasteners, which is preferred by all who have used it to any other.

CHARLES STODDER,

75 Kilby st., Boston.

June 20, 1851.

3m.

LOWMOOR

AND

U. S. BEST FINCH IRON.**To Iron Merchants.**

JOHN FINCH & SONS, Iron Merchants, Liverpool, now are, and for more than twenty years past have been, sole Agents for the LOWMOOR IRON COMPANY, for the United States and Canada, for the sale of their well known Railway Tire Bars, and Axles, Piston Rods, Boiler Plates, Angle, Rivet, and all other kinds of Lowmoor Iron: also, sole Agents for the sale of the superior St. Ffordsire Iron stamped "FINCH CROWN" and "U. S. BEST FINCH;" and Merchants and Wholesale Dealers in all other kinds of British Iron.

We hereby inform our friends and the public that we have this day appointed Mr. WM. BAILEY LANG, of Boston, as our only representative to receive orders and to transact our general business in the United States.

For JOHN FINCH & SONS,
JOHN FINCH Sen.

Boston, April 11, 1851.

LOWMOOR and other Bent, Welded and Blocked RAILWAY TIRES, ready for use, E. FINCH'S Patent Dovetailed and other kinds of WROUGHT IRON RAILWAY WHEELS, with, or without the finished Axles, for Locomotives and for Passenger and Merchandise Cars, also Wrought Iron Railway Chairs, Railway Spikes, etc.

To the Managers of Railways, Engineers and others: Gentlemen:—We, FINCH & WILLEY, Engineers, Liverpool, Manufacturers of the above articles, respectfully inform you that we have this day appointed Mr. WM. BAILEY LANG, of Boston, as our sole Agent for the sale of said articles, and the transaction of our business in the United States of America, and for whom we solicit your kind attention and patronage.

For FINCH & WILLEY,
JOHN FINCH, Sen.

Boston, April 11, 1851.

Having accepted the above Agencies, I beg leave to solicit your orders, which shall at all times receive my prompt and careful attention. Please address all communications either to MESSRS. JOHN FINCH & SONS or MESSRS. FINCH & WILLEY, Liverpool; or to me, at my Steel Warehouse, No. 9 Liberty Square, Boston. Yours very respectfully,

WM. BAILEY LANG.

Boston, April 11, 1851.

The following are testimonials of the quality of FINCH & WILLEY'S WROUGHT IRON RAILWAY WHEELS from the Yorkshire and Lancashire Railway Co., one of the largest in Great Britain, and from the London and North Western Railway Co., the largest Railway Company in the world.

LONDON AND NORTH WESTERN RAILWAY,
(Northern Division),

WAGON DEPARTMENT, ORDSALL LANE,
Manchester, January 4, 1851.

Gentlemen:—I have very great pleasure in bearing my testimony to the excellent quality of your Wrought Iron Railway Wheels.

This Company have many of them now in use on their lines, and during my experience, as their Superintendent, which is now upwards of 9 years standing, I have not known any of them to fail during that time.

I am, Gentlemen, yours, truly,

OWEN OWENS.

MESSRS. FINCH & WILLEY,
Windsor Foundry.

LANCASHIRE AND YORKSHIRE RAILWAY,
Wagon Department, Jan. 3, 1851.

Messrs. Finch & Willey,

Gentlemen: In reply to your request writing me to give my opinion of the 700 sets of Wrought Iron Wheels you furnished this company during the years 1847 and 1848, I have much pleasure in stating that we have not had a single instance of your Wheels failing in any respect, and I consider them equal if not superior to any Wheels we have on this line of railway. The Tires being LOWMOOR iron, 1 $\frac{1}{2}$ inch thick, I have no doubt they will run under ordinary goods' wagons 12 years without any repairs more than the tires turning up. I am Gentlemen,

Yours, truly, WM. EMMETT.

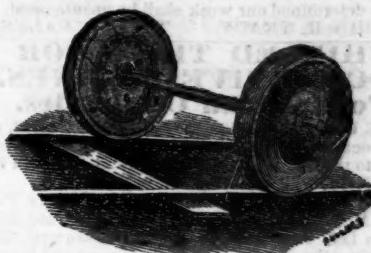
Note.—4 Wheels and 2 Axles are one set, consequently this order contained 200 WHEELS and 1400 AXLES; value over \$100,000.

Boston Locomotive Works,

—Late Hinkley & Drury—
No. 380 Harrison Avenue,
BOSTON.

Locomotive and Stationary Steam Engines; Boilers; Iron, Brass, Copper and Composition Castings; Coppersmith's Work, and all kinds of Railroad Machinery furnished at short notice.

ALSO

**Van Kuran's Improved Railroad Wheel,**

Patented May 1, 1849. Manufactured under the personal superintendence of the Patentee, as above.

Orders for any quantity of wheels executed with dispatch, and wheels and axles fitted in the very best manner and at the lowest rates. Address

DANIEL F. CHILD, Treasurer, Boston.

**Providence Tool Co.,**

MANUFACTURERS OF

Plane Irons, Tooth Irons, Soft Moulding and Rabbit Irons, Cornice Irons, Plow Bits, and Planing Machine Knives:

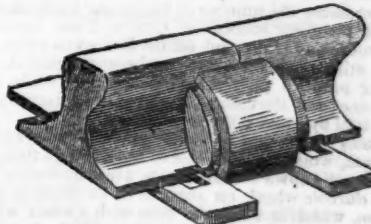
NUTS, WASHERS AND BOLTS.

ALSO

PLATE HINGES AND PICK AXES.

They are prepared to execute orders for all descriptions of Cold Punching and Job Work.

W.M. FIELD, Agent. RUFUS WATERMAN, Treas.
PROVIDENCE, R. I.

Railroad Iron, SPIKES, AND WROUGHT IRON CHAIRS.

THE Undersigned, Agent for Manufacturers, is authorized to contract for Welsh Railroad Iron of the best quality, and deliverable at any port on favorable terms, also Spikes and Wrought Iron Chairs, made from the best iron, and of any pattern and weight. The new Wrought Iron Chair, with the introduction of a "Key," as per the annexed plan, will be found a great improvement on the old pattern.



Boiler Plates of superior quality, perfect regularity in the squaring and thickness, and made with great care.

Samples can be seen at: office, No. 20 Beaver & CHARLES ILLIUS

RAILROAD CAR MANUFACTORY
TRACY & FALES,
GROVE WORKS, HARTFORD, CONN.
Passage, Freight and all descriptions of
RAILROAD CARS,
AS WELL AS
LOCOMOTIVE TENDERS,
Made to order promptly.

The above is the Largest Car Factory in the Union. In quality of Material, and in Workmanship, Beauty and Good Taste, as well as Strength and Durability, we are determined our work shall be unsurpassed.

JOHN R. TRACY. THOS. J. FALES.

**CHILLED TIRES FOR
LOCOMOTIVE ENGINES.
To Railroad Companies.**

THE Undersigned, Assignee of Letters Patent, respectfully invites the attention of Railroad Companies to the CHILLED TIRES for LOCOMOTIVE ENGINES, which he offers for sale.

These Tires were first introduced by Messrs. Perkins & McMahon, upon the Baltimore and Ohio Railroad, in 1843, where, after a long and severe trial, they were generally adopted, on both passenger and freight engines, and now have entirely superseded Wrought Tires on that road, on which are many engines of the heaviest class, which ascend grades of *eighty-five feet per mile*, taking with them *one hundred and twelve tons*, exclusive of cars. This performance shows in some measure the adhesive character and strength of the Tire.

During a service of seven years, these Tires have very much exceeded in durability those of wrought iron, while their first cost, and expense of repairs, is more than *fifty per cent. less*. They also retain more *equally their diameter and proper form of tread*, which is a point of much value in engines with coupled wheels.

It is believed these Tires are peculiarly well adapted to freight engines, as the objection to coupling the wheels of locomotives is the *increased friction*, arising principally from the *unequal wear* of wrought tires; and hence most of the freight engines where wrought tires are used, have but *four wheels as drivers*, with frequently a weight of *sixteen tons*, or more, upon them, which may be of no disadvantage to the engine, although its effect upon the *track* is like a car with *sixteen tons* upon *four wheels*, and it is presumed no one would permit cars so heavily loaded to pass over their road.

As Chilled Tires wear more uniformly than those of wrought iron, there can be no doubt when these are used, that the weight necessary for adhesion may be distributed upon more driving wheels, without any material disadvantage to the engine, and thus placing less weight upon a single point, would relieve the track, and secure, to a great extent, the object sought to be gained by the plan so frequently proposed, of using light engines, which would bring with it the necessity of increasing the number of trains and train hands.

The complete success of Chilled Tires upon the Baltimore and Ohio road for the last seven years, and upon other roads for a more subsequent period, is a strong proof of their practical character, while their cheapness and durability, it is believed, recommend their trial by every railroad company.

It may be thought by some that the whole wheel for strength, would be preferable to wheels with tires, but experience shows the latter to be a much stronger and more durable wheel, on account of its freedom from tension, which is never the case with a whole wheel. That TENSION has much to do with the breaking of wheels and tires, may be inferred from the fact, that a set of chilled tires, five feet diameter, on a first class passenger engine, have been in constant service during the past winter, on one of our Eastern roads, and have withstood the severities of the season, where whole wheels and wrought tires have broken. And it may be proper to remark, that wherever chilled tires have been introduced, whole wheels as drivers are invariably abandoned, they being far more expensive to maintain, as there is a *crank* to form as often as a wheel is renewed, which is not the case on the renewal of a tire.

The peculiar manner of fastening these tires to the wheel without shrink, applies equally well to wrought tires, and is of much importance where they are used, as it secures them against the TENSION or STRAIN they receive by the present plan of shrinking them to the wheel, which undoubtedly is the cause of wrought tires breaking so frequently, particularly in cold weather, which produces a greater contraction of the tire, thereby increasing the strain. This plan makes the tire perfectly secure upon the wheel, and is attended with less expense, as will be seen by the following testimonies, which are respectfully submitted.

Lowell, March, 1851.

L. B. TYNG.

TESTIMONIALS.

Baltimore and Ohio R. R. Office, {
Jan 2, 1850. }

Mr. L. B. TYNG, Lowell, Mass.—Sir: Your favor of the 26th ult., is before me, asking my opinion of the Chilled Cast Iron Tires, of Messrs. Perkins & McMahon, patentees. I do not hesitate to speak favorably of them, nor to say that I would give them the preference over wrought iron tires, whenever the adhesive tenacity of the latter to the rails is not all called for, there being somewhat less adhesion to the chilled wheel.

This can, however, scarcely be called a practical point, as nearly all of the Passenger Engines now in use have a surplus of adhesion, and nearly all Freight Engines being provided with the sand box, for emergencies arising from sharp curves, heavy grades or wet rails.

The Chilled Tire is very much cheaper in first cost, will last longer, and offers a facility for putting it on the wheel, rendering comparison with the wrought iron tire an absurdity—it not being necessary even to take the wheels from the machine for the purpose.—Many of them are in successful use on this road, and I consider its curves and other peculiarities the most severe of all existing tests. One set of five feet in diameter, has run 50,000 miles under one of our Passenger Engines, and will to all appearance, run as many more; and, in the mean time, they have not cost a dollar for repairs or adjustment.

It may be suggested that they might not stand a Northern frost. This is possible; but I believe otherwise, as the weather here is occasionally as severe as in Boston, and if I had charge of a northern road, after the experience I have had here, I would make their trial one of my very first acts.

Respectfully your Ob't Serv't,
WM. PARKER, General Supt., etc.

January 29, 1851.

Philadelphia, Wilm. and Balt. R. R. Office, {
Wilmington, Del. }

Mr. L. B. TYNG—Sir: We have used the solid Cast Iron Chilled Wheel, and Cast Iron Chilled Tire, for engine drivers, on this road since 1842. When wrought iron tires under new engines, purchased from time to time, wear out, I invariably replace them with the Chilled Tire of Messrs. Perkins & McMahon, patentees.

These Tires will last, on the average, three times as long as wrought tires; seldom requiring renewals under three years, and lasting much longer usually. We have a set which has been in constant use for five years, and still in fair order. The adhesion supplied by the Chilled Tires, I find in practice with engines of the same model and weight, to be equal to that given by wrought tires. This is certainly a fact, though not an acknowledged one, in general. Those who think otherwise, will in time change their opinions.

I am of opinion that the Chilled Tire is as safe as the wrought, at any temperature. In eight years use, we have broken but one tire out of more than fifty, and that by a violent concussion on the occasion of a run off.

The use of the Chilled Tire, and the ease and rapidity with which it may be replaced, would certainly enable a road to do the same amount of work with fewer engines—since but little time would be lost in laying up an engine for new tires, or for turning down old ones, as must be done when wrought tires are used.

I am yours respectfully,
I. R. TRIMBLE,
Engineer and General Supt.

Office Eastern R. R., Salem, Dec. 23, 1850.

L. B. TYNG, Esq.—Sir: Your favor of Nov. 30th, inquiring respecting the Chilled Cast Iron Tires, came duly to hand, and in answer, I will say, that this road have in use one set cast and fitted to the wheel, by Messrs. Bush & Lobbell, upon a twenty ton first class Passenger Engine, which has run in eight months, 26,639 miles, and to all appearance, are about as good as when they first commenced running.

In regard to the comparative expense of the cast or wrought iron tires, I do not hesitate to say that the difference would be vastly in favor of the former.

I have ordered a second set, and they will be put on to the engine immediately. Respectfully,

JOHN KINSMAN, Supt. E. R. R.

Chilled Tires for the various sized wheels, or wheels with either chilled or wrought tires fitted up upon this plan, may be had of the following persons:

ALDRICH, TYNG & Co., Lowell, Mass.
SMITH & PERKINS, Alexandria, Va.

Rights for using Tires upon the above plan, may be had on reasonable terms, of L. B. TYNG, Lowell, N. Y.

Railroad Iron.

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require the *very best* quality for special purposes, is respectfully invited.

COOPER & HEWITT,
17 Burling Slip, New York.

February 15, 1850.

**S. S. Keyser & Co.,
IRON WAREHOUSE,**

Corner of Sout' and Pratt Streets,

BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electerised Steel, etc., etc.

Iron.

200 Tons Fishkill Charcoal Iron for sale on reasonable terms, also from 1000 to 5000 tons Fishkill Hematite Ore—delivered at Poughkeepsie or New York. Samples of the ore may be seen at the store of Messrs. Hoffman, Bailey & Co., No. 62 Water st., New York. Enquire by letter to NORMAN M. FINLAY, Poughkeepsie, Dutchess county, N. Y.

July 10, 1851.

ENGINEERS.

Atkinson, T. C.,
Mining and Civil Engineer,
Orange and Alexandria Railroad, Alexandria, Va.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W. H.,
Engineer and Surveyor, St. Louis, Mo.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

C. Floyd-Jones,
Central Railroad, Decatur, Illinois.

Gay, Edward F.,
Columbia and Philadelphia Railroad, Philadelphia Pa.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

S. W. Hill,
Mining Engineer and Surveyor, Eagle River, Lake Superior.

Holcomb, F. P.,
Southwestern Railroad, Macon, Ga.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Buffalo and Conhocton Valley Railroad, Bath, N. Y.

Morris, Elwood,
Engineer, Chartiers Co., Pittsburgh, Penn.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Osborne, Richard B.,
Cattawissa, Williamsport and Erie R. R., Tamaqua.

Pritchard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

W. Milnor Roberts,
Bellefontaine and Indiana Railroad, Marion, Ohio.

Shanly, Walter,
Chief Engineer Bytown and Prescott Railway,
Prescott, Canada.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Steele, J. Dutton,
Pottstown, Pa.

Trautwine, John C.,
Civil Engineer and Architect, Philadelphia.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Troost, Lewis,
Alabama and Tennessee Railroad, Selma, Ala.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

HOTELS.

DAVIS'S

ALHAMBRA HALL,
No. 136 Pratt street,
BALTIMORE.

Exchange Hotel,
Adjoining Eastern Railroad Depot,
BUFFALO, N. Y.
BY.....
FISK & SPERRY,
Late of Delevan House, Albany.

MANSION,
Corner of Maine and Exchange Streets,
P. DORSHIMER. BUFFALO.

Barnum's City Hotel,
MONUMENT SQUARE, BALTIMORE.
This Extensive Establishment, erected expressly
for a Hotel, with every regard to comfort and convenience,
is situated in the centre and most fashionable
part of the city, and but a few minutes' walk from the
Railroad Depots and Steamboat Landings.

The House has lately undergone a thorough repair,
embracing many valuable improvements, and will accommodate 250 Guests.

BARNUM & CO.

American Hotel,
Pratt street, opposite the Railroad Depot,
BALTIMORE.

HENRY M. SMITH.....
Proprietor.
Late of the Exchange & St. Charles Hotels, Pittsburgh

Washington Hotel,
BY JOHN GILMAN,
\$1 Per Day.
No. 206 Pratt street, (near the Depot),
BALTIMORE.

GUY'S
United States Hotel,
(Opposite Pratt street Railroad Depot),
BALTIMORE.
JOHN GUY. WILLIAM GUY.

DUNLAP'S HOTEL,
On the European Plan,
NO. 135 FULTON STREET,
Between Broadway and Nassau St.,
NEW YORK.

JONES' HOTEL,
NO. 152 CHESTNUT STREET,
PHILADELPHIA.
BRIDGES & WEST, . Proprietors.

Fountain Hotel,
LIGHT STREET, BALTIMORE,
MURSTON.....
Proprietor.

BUSINESS CARDS.

Walter R. Johnson,
CIVIL AND MINING ENGINEER AND ATTORNEY FOR PATENTS. OFFICE AND LABORATORY, FIFTH OPPOSITE THE PATENT OFFICE, WASHINGTON, D. C.

Lithography.
JOHN P. HALL & CO.,
161 Main st., Buffalo, (Commercial Advertiser Building.)

Are prepared to execute all kinds of Lithography in good style and at reasonable rates. Particular attention will be paid to Engraving Railroad Maps, Engineer's Plans and drafts, etc., and orders in this line are respectfully solicited.

Cumberland, (Md.) Coals for Steaming, etc.

ORDERS RECEIVED FOR AND FILLED
by J. COWLES, 27 Wall St., N. Y.

J. & L. Tuckerman,
IRON COMMISSION MERCHANTS,
AND MANUFACTURERS OF
ULSTER BAR & POUGHKEEPSIE PIG IRON,
69 WEST STREET,
NEW YORK

Henry I. Ibbotson,
IMPORTER OF SHEFFIELD AND BIRMINGHAM GOODS.
Also, Agent for the Manufacture of Telegraph Wire.
218 PEARL ST., NEW YORK.

Charles T. Jackson, M. D.,
STATE ASSAYER, late Geologist to Maine, Rhode Island, New Hampshire, and the United States, offers his services to his friends and the public in making any Chemical, Mineralogical or Geological researches that may be required for the improvement of Agriculture and the Manufacturing Arts. Particular attention will be paid to the exploration of mines and to assaying of ores of the metals.

State Assayer's office, 31 Somerset st. Boston Sept. 3, 1850.

STEEL AND FILES.

R. S. STENTON,
20 CLIFF STREET, NEW YORK,

AGENT FOR

J. & RILEY CARR,
BAILEY-LANE WORKS, SHEFFIELD,
Manufacturers of Cast, Shear, German, Blister, and
Spring Steel,
Of all descriptions, Warranted Good.

FILES.
Manufacturers of Machinists' Warranted Best Cast Steel Files, expressly for working upon Iron and Steel, made very heavy for recutting.

Full Stock of Steel and Files at all times on hand.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

Manning & Lee,
GENERAL COMMISSION MERCHANTS,
NO. 51 EXCHANGE PLACE,
BALTIMORE.

Agents for Avalon Railroad Iron and Nail Works, Maryland Mining Company's Cumberland Coal 'CED-Potomac' and other good brands of Pig Iron.

Samuel Kimber & Co.,
COMMISSION MERCHANTS

WILLOW ST. WHARVES, PHILADELPHIA.
GENTS for the sale of Charcoal and Anthracite
A Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.

July 27, 1849.

James Herron, Civil Engineer,
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.

PATENTEE OF THE

HERRON RAILWAY TRACK.
Models of this Track, on the most improved plan, may be seen at the Engineer's office of the New York and Erie Railroad.

PLUSHES

FOR
RAILWAY CARS & OMNIBUSES.
F. S. & S. A. MARTINE,

112 WILLIAM ST., NEAR JOHN.

ARE now receiving a large and complete assortment of Plain and Figured PLUSHES, of their own importation, which will be sold at the lowest market price, viz: Crimson, Maroon, Scarlet, Green, Blue, Purple, etc.

ALSO—CURLED HAIR, the best manufactured in market.

Manufacture of Patent Wire ROPE AND CABLES,

For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tilers, &c., by JOHN A. ROEBLING, Civil Engineer, TRENTON, N. J.

FORGING.

RANSTEAD, DEARBORN & CO.,

MANUFACTURERS OF LOCOMOTIVE CRANKS AND CAR AXLES,

ALSO

WROUGHT IRON SHAFTING,
And All Kinds of Hammered Shapes.
Office 25 Foster's Wharf, Boston.

Samuel D. Willmott,

MERCHANT, AND MANUFACTURER OF CAST STEEL WARRANTED SAWS,

—AND FILES—

IMPORTER OF THE GENUINE WICKERSLEY GRINDSTONES
NO. 8 LIBERTY STREET,
NEW YORK.

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES, AND LEVELS, with Fraunhofer's Munich Glases, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by

E. & G. W. BLUNT,

No. 179 Water St., cor. Burling Slip, New York, May 19, 1849.

Knox & Shain,

MANUFACTURERS OF LEVELS, TRANSITS AND SURVEYING COMPASSES.

No 72 Dock st. first door south of Walnut, west side, PHILADELPHIA.

IRON.

Iron.

Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chairs of approved patterns for sale by

COLEMAN, KELTON & CAMPBELL,
109 N. Water St., Philadelphia.

Iron Store.

THE Subscribers, having the selling agency of the following named Rolling Mills, viz: Norristown, Rough and Ready, Kensington, Philadelphia, Pottsgrove and Thorndale, can supply Railroad Companies, Merchants and others, at the wholesale mill prices for bars of all sizes, sheets cut to order as large as 58 in. diameter; Railroad Iron, domestic and foreign; Locomotive tire welded to given size; Chairs and Spikes; Iron for shafting, locomotive and general machinery purposes; Cast, Shear, Blister and Spring Steel; Boiler rivets; Copper; Pig iron, etc., etc.

MORRIS, JONES & CO.,

IRON MERCHANTS,

Schuylkill 7th and Market Sts., Philadelphia.

August 16, 1849.

Glendon Refined Iron.

ROUND IRON, BAND IRON, HOOP IRON,
SQUARE " FLAT " SCROLL "

AXLES, LOCOMOTIVE TYRES,
MANUFACTURED AT THE GLENDON MILLS, EAST BOSTON, FOR
SALE BY

GEORGE GARDNER & CO.,
5 LIBERTY SQUARE, BOSTON, MASS.,
Sept. 15, 1849.

Bowling Iron. Stamped B.O.

Railway Tire Bars
Locomotive and other Axles
Boiler Plates
and every other description of this superior Iron.

The subscribers, agents for the sale of Bowling Iron, are prepared to execute orders for importation, especially for railway and machinery uses, with despatch from the manufacturers.

RAYMOND & FULLERTON, 45 Cliff st.

**Ibbotson, Brothers & Co's
CELEBRATED CAST STEEL**

AND

Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shoveland Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

HENRY I. IBBOTSON, Agent,
218 Pearl st., New York.

**Smith & Tyson,,
IRON COMMISSION MERCHANTS,
BALTIMORE.**

REFINED Juniata Charcoal Billet Iron for Wire.
Do. for Bridging, of great strength.

Flat Rock, Boiler and Flue Iron, rolled to pattern.
Elba, Wheel Iron of great strength and superior chilling properties. Elba Forge Iron, American Shot Iron, Cut Nails, Spikes and Brads, Nail and Spike rods, Railroad Spikes of superior quality, Wrought Chair plates of any pattern, punched or plain.

**WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.**

The subscribers have on hand, and are constantly receiving from their manufactory,

PARK WORKS, SHEFFIELD,
Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.

Machinery Steel—round.
Best and 2d gy. Sheet Steel—for saws and other purposes.

German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.

Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
91 John street, New York.

Also by their Agents—
Curtis & Hand, 47 Commerce street, Philadelphia.
Alex'r Fullerton & Co., 119 Milk street, Boston.
Stickney & Beatty, South Charles street, Baltimore.
May 6, 1848.

Railroad Iron.

B. O. Railway Tires, Railway Wheels,
Scotch Pig Iron, Tin Plates and Banca Tin,
Muntz Patent Metal Sheathing,
Baltimore Copper.

Contracts for Rail's made on behalf of the manufacturers, for delivery at any ports in the United States, at fixed prices.

Bowling Tires and Tire Bars and Scotch Pigs imported to order.

Muntz's Ship-sheathing, and a general stock of Tin Plates and Banca Tin in store, and for sale by RAYMOND & FULLERTON, 45 Cliff st.

RONDALE PIG METAL, MANUFACTURED
and for sale by the Bloomsburg Railroad Iron Co.
LINDLEY FISHER, Treasurer.
75 N. Water St., Philadelphia.

Car Wheel Iron.
THE celebrated cold blast "Conowingo" Pig Iron, for Railroad Wheels, Chilled Rolls, etc., for sale by E. PRATT & BROTHER, Baltimore, Md.

Railroad Iron.
3,000 TONS C. L. MAKE 63 $\frac{1}{4}$ lbs. per yard,
now landing and to arrive.

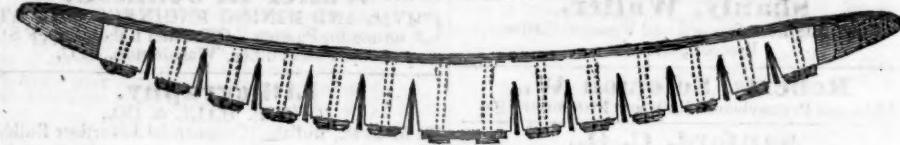
Also contracts made for future delivery of above superior make English Iron.
300 Tons Banks Best Iron, Round, Square and Flat.
200 " English Bar " " " "
10 " 9-16 Square Iron for Railroad Spikes.

For sale in lots to suit purchasers by DAVID W. WETMORE.
New York, March 26, 1850.

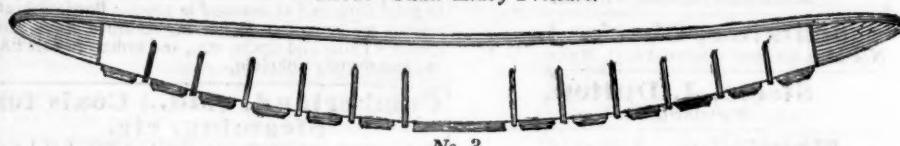
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**PATENT EXCELSIOR SPRING
for Railroad Cars, Locomotives, etc.**

No. 1.—At Rest.



No. 2.—Under Heavy Pressure.



No. 3.



THESE Springs are composed of a Plate of Steel or five thousand pounds with the same ease. *The cost of the springs is very much less than that of any other.*

The Excelsior Spring Co., determined that every spring shall be of the best quality, have established a Factory, where each spring is made directly under the eye of Mr. Bissell, the inventor—and before a spring is allowed to leave the factory it is subjected to a much severer test than it ever can be when at work.

Each Spring is guaranteed to perform the required work. Any person infringing on this patent will be prosecuted.

Office of EXCELSIOR SPRING COMPANY.
33 Broadway, New York.

June 7, 1851.

Railroad Spikes, Boiler Rivets, etc.

THE Subscribers, Agents for the sale of James S. Spencer's, Jr., Railroad and Boat Spikes, Boiler Rivets, and Wrought Iron Chairs for Railroads, made at his Works near this city, will execute all orders with promptness, despatch, and of the best quality.

ALSO IMPORTERS of English refined and Merchant bar Iron; Extra refined Car and Locomotive Axles (from 3 $\frac{1}{2}$ to 6 $\frac{1}{2}$ inches in diameter); B. O. Locomotive Tire (welded by Baldwin). Also, supply Boiler and Flue Iron cut to pattern or otherwise. Spring, Shear, and Cast Steel, etc., etc., etc.

T. & E. GEORGE.
Philadelphia, November 14, 1850.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract for the delivery of English, Welsh and Scotch Rails, of any pattern and weight, also for every description of English, Welsh, Scotch, and Swedish Iron, Railway Chairs and Spikes, Rivets, Bolts, Nuts, Washers, Chain Cables, Anchors, Tin Plates, German Spelter, Iron Castings, and every description of Machinery.

WILLIAM BIRD & CO.,
Iron and Tin Plate Merchants,
44 Wall st., New York.
And at 5 Martin's Lane, City, London,
and 140 Buchanan st., Glasgow.

July 27th, 1850.

Railroad Iron.

THE "Montour Iron Company" is prepared to execute orders for Rails of the usual patterns and weights, and of any required length not exceeding 30 feet per rail. Apply to

THOS. CHAMBERS, President,
66 Broadway, N. Y.

Or to the Agents,
CHOUTEAU, MERLE & SANFORD,
No. 51 New st., New York.

September, 1850.

Railroad Iron.

THE Undersigned, Agents for the Manufacturers, are prepared to contract to deliver free on board at shipping port in England, or at port of discharge in the United States, Rails of superior quality, and of such weight or pattern as may be required.

VOSE, PERKINS & CO.,
74 South St.

New York, June 1, 1851.

Railroad Iron.

1650 Tons, weighing about 61 lbs. per yard, 40 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53 $\frac{1}{2}$ lbs. per yard, of the latest and most approved patterns of T rail, for sale by BOORMAN, JOHNSTON & CO., 119 Greenwich street.

New York, Aug. 26, 1850.

N.B.—B. J. & Co. are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the United States.

Tredegar Iron Works.

ROLLING MILL FOUNDRY AND MACHINE SHOPS. The undersigned continues to manufacture at his Works in this city (from best charcoal metal) Bar Iron of every description, embracing Rounds and Squares, from $\frac{1}{2}$ to 5 inches diameter. Flats, from $\frac{1}{2}$ to 7 inches, all thicknesses. Bands and Scrolls, all sizes. Boiler plate and Plough Iron. Railroad and Locomotive Axles and Tires. Locomotive Frames, Spikes and Plates. Hoops, Ovals, Half Ovals, Half Rounds, Angle, T, L, and indeed every description of Iron usually manufactured, all of which he warrants to be equal to any made in this country. He also manufactures at his Foundry and Machine Shops all descriptions of Railroad Work, say, Locomotives, Railroad Wheels and Axles complete and ready for the road, Railroad Chairs, etc. Also, Marine and Stationary Engines all sizes, Sugar mills and Engines, Horse mills, and every kind of Machinery usually required for the operations of the country.

He has paid particular attention to getting up machinery, etc., for Gold Mine operations, and those in want of such work might find it to their advantage to give him a call.

J. R. ANDERSON.

Richmond, Va., Sept. 10, 1850.

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO., 75 N. Water St., Philadelphia.

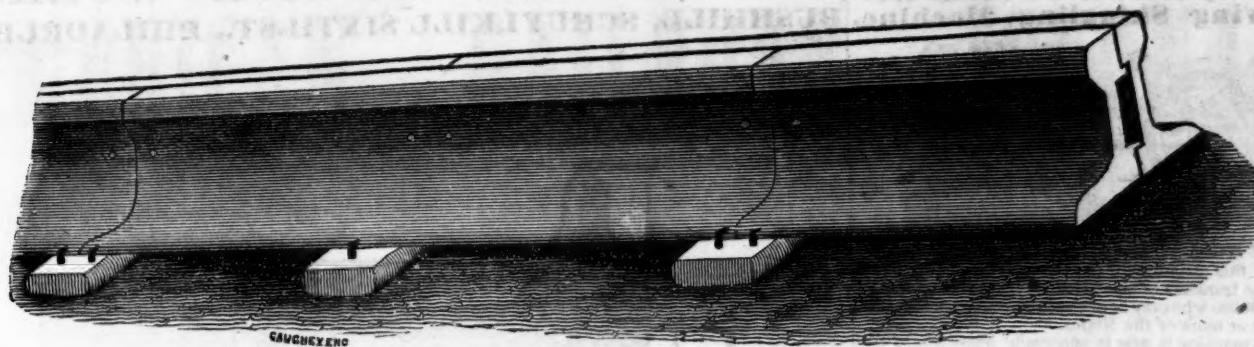
TO RAILROAD COMPANIES, CAR MANUFACTURERS, etc.

THE Undersigned hereby gives public notice, that the Commissioner of Patents, pursuant to his decision in relation thereto, on the 8th day of October, 1850, issued to him a Patent for the sole right to manufacture, and exclusive use of the INDIA RUBBER CAR SPRING, on account of priority of invention of said Spring.

F. M. RAY.

New York, Oct. 23, 1850.

PATENT COMPOUND RAIL.

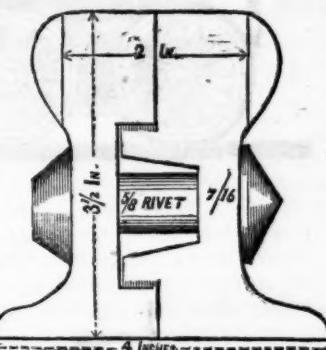


THE UNDERSIGNED NOW OFFER TO THE Railroad Public a new Compound Railroad Bar, which possesses, as they believe, a decided superiority over every kind now in use. The Cuts annexed will give a good idea of the form of the Rail, and the mode of combination.

This Rail has now been in use on the New York and Erie and the Utica and Schenectady Railroads for nearly two years, and has proved itself to be a durable and continuous rail, realizing the advantages of a theoretically perfect rail, over the one in common use. We invite the attention of Railroad Companies to a careful examination of the merits of the form now offered.

The advantages of this Rail are: first, it effects a saving of from 25 to 50 per cent. in the wear and tear of the machinery; secondly, it saves to a vastly greater extent in the repairs of track; thirdly, it secures a much higher rate of speed with the same power; and what is of still

N.B.—Patterns of the above rail are placed with Mr. A. V. Winslow, Cincinnati, Ohio, who is authorized to negotiate with parties for the same.



greater importance, it offers complete protection against most of the accidents to which companies are liable. For these reasons, it is believed to be not only the best, but the cheapest rail that can be used. In enumerating its advantages, the proprietors only repeat the statements of competent persons, who have had the best opportunities of judging of its merits.

This improved Rail is now being manufactured at the Works of the Mount Savage Iron Co. in Maryland. Any communications or enquiries addressed to either of the undersigned will receive prompt attention.

J. F. WINSLOW, President,
Troy, N. Y.

ERASTUS CORNING, Albany,
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore.

April 8, 1851.

Faggotted Car and Engine Axles

FORGED by RANSTEAD, DEARBORN & Co.,
Boston, Mass.

These Axles enjoy the highest reputation for excellence, and are all warranted.

Iron Trade of Pennsylvania.

DOCUMENTS and Statistics relating to the Manufacture of Iron in the State of Pennsylvania—giving a history of the manufacture from its commencement to this date, illustrated by diagrams. Also tables giving the address and capacity of every establishment in the State. Prepared by direction of the late convention of the trade held in Philadelphia. For sale by

LINDSAY & BLACKISTON, Philadelphia.
FIELDING LUCAS, Jr., Baltimore.

HENRY G. NICHOLS, 79 Water St., N. Y.
or at this office—price \$1 00.

It will be sent by mail to any order enclosing the money, and post paid.

Ulster Iron.

THE ULSTER IRON WORKS, Saugerties, N. Y., continue in full operation. Orders for round, square, flat, band, hoop and scroll iron, will be received and promptly executed by

J. & L. TUCKERMAN,
69 West St., New York.

India-rubber for Railroad Cos.
RUBBER SPRINGS—Bearings and Brackets—Ful-
ler's Patent—Hose from 1 to 1 1/2 inches diameter.
Suction Hose. Steam Packing. From 1-1/2 to 2 in thick. Rubber and Gutta Percha Bands. These articles are all warranted to give satisfaction, made under Tyer & Helm's patent, issued January, 1849. No lead used in the composition. Will stand much higher heat than that called "Goodyear's," and is in all respects better than any in use. Proprietors of railroads do not be overcharged by pretenders.

HORACE H. DAY,

Warehouse 23 Courtland street,
New York, May 21, 1849.

Railroad Iron.

2000 TONS T RAILS, of desirable pattern, arrived, and to arrive, for sale by
RAYMOND & FULLERTON,
45 Cliff st.

Railroad Iron.

THE MOUNT SAVAGE IRON WORKS, ALLEGHENY COUNTY, MARYLAND, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, President,
Troy, N. Y.

ERASTUS CORNING, Albany,
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md

November 6, 1848.

Railroad Iron.

THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phoenix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehanna river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.

REEVES, BUCK & CO.

45 North Water St. Philadelphia.

March 15, 1849.

LAP-WELDED WROUGHT IRON TUBES

TUBULAR BOILERS, FROM ONE AND A QUARTER TO SEVEN INCHES IN DIAMETER.

THE ONLY Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER & SON, Patentees,
28 Platt street, New York.

AMERICAN PIG IRON.

"POUGHKEEPSIE" brand, Dutchess Co., N. Y.
"GLENDON" brand, Lehigh county, Pa.
Orders for the above two well known brands will be received, and promptly executed, by

J. & L. TUCKERMAN,
69 West St., New York.

American Cast Steel.

THE ADIRONDAC STEEL MANUFACTURING CO. is now producing, from American iron, at their works at Jersey City, N.J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.

May 28, 1849.

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.

JOHN F. WINSLOW, Agent.

Albany Iron and Nail Works, Troy, N. Y.
The above Spikes may be had at factory prices, • Erastus Corning & Co. Albany; Merritt, & Co., New York; E. Pratt & Br. & Co., Baltimore, Md.

Stickney & Beatty, DEALERS IN IRON AND IRON MANUFACTURERS.

A GENTS for the Baltimore City Rolling Mill (Works of Messrs. Ellicott) also agents for the sale of the Laurel, Locust Grove and Gunpowder (Balt.) Forge Pig Irons; Hupp's Cold Blast Columbia Wheel Iron, Fort and anti-Eatam Pig Irons, Caledonia, Columbia and Capon Cold Blast Boiler Blooms, warranted; Wm. Jessop & Son's Steel; Old Colony and anti-Eatam Nails; Bar Iron, Boiler Plates, Hoop Sheet, Oval, Half Oval, Horse Shoe and other Iron. Exchange Place, Baltimore.

Railroad Iron.

2000 Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by

COLLINS, VOSE & CO.

74 South St.

New York, June 1, 1850.

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phoenixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has given universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammerman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y.

P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery for making Spikes, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

CHILLED RAILROAD WHEELS.—THE UNDERSIGNED are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St., below 13th,
Philadelphia, Pa.

Brown's Old Established SCALE WARE HOUSE,

NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

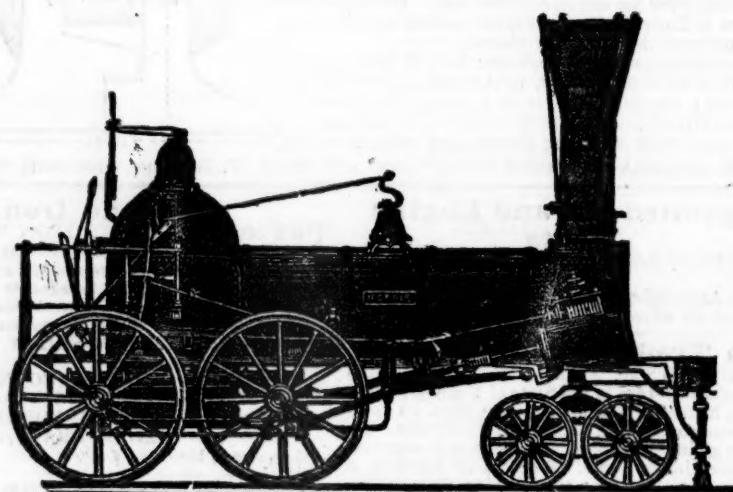
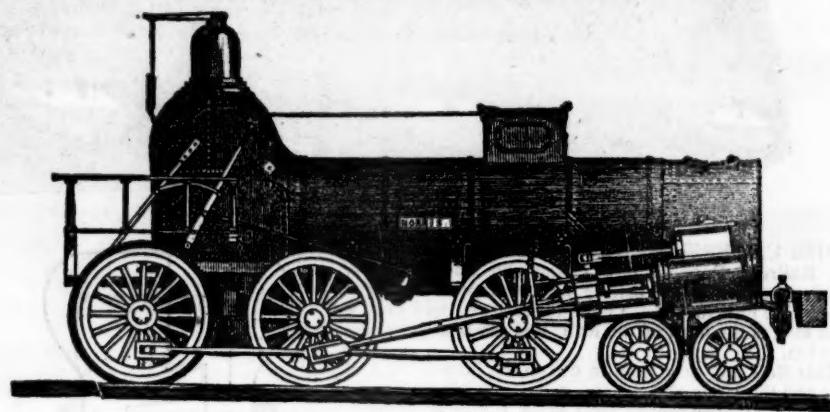
He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others.

J. L. BROWN.

Bank Scales made to order, and all Scales of this make Warranted in every particular.

References given I require

NORRIS' LOCOMOTIVE WORKS. BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,



THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside. Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

PATENT MACHINE MADE HORSE-SHOES.

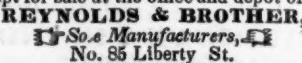
 The Troy Iron and Nail Factory have always on hand a general assortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

Soe Manufacturers,
No. 55 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States. The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849.

UNION WORKS,

North street, opposite the Railroad Depot,
BALTIMORE.

Poole & Hunt,

Manufacturers of Steam Engines and Mill Gearing, Machinists' Tools, and all kinds of heavy and light Machinery.

Also put up Arrangements of Wrought Iron Pipes for heating buildings and conveying steam or water. Castings of every kind furnished at short notice.

Every exertion will be made to insure the satisfaction of customers.

Patent Machine Picket Fence

SIX DIFFERENT STYLES of this fence are now made by patent machinery; and is by far the most economical fence for Railroads, Farms, Yards, etc., ever yet offered to the public, costing only from 4 to 30 cents per foot, according to pattern; and is so put up as to be shipped at a trifling expense. Full particulars will be furnished, by addressing the subscriber, to whom all orders could be sent.

N. STRATTON, Troy, N.Y.